THE RELATIONSHIP BETWEEN DIVIDEND POLICY AND AGENCY PROBLEMS OF FINANCIAL SERVICES COMPANIES LISTED ON THE JOHANNESBURG SECURITIES EXCHANGE

by

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Submitted in accordance with the requirements

for the degree of

MASTER OF COMMERCE

in the subject

BUSINESS MANAGEMENT

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: Prof MS Ngwenya

January 2019

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I hereby certify that the above dissertation is my own work and that all the sources that I have used have been acknowledged by means of complete references.

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Date: November 2018

DEDICATION

This research work is dedicated to my late parents, my mother Mnkazanyana Mziselwa and my father Nicholas Mziselwa who both planted the seed of education to me. My mother succumbed to stroke while I was still busy with my master's degree. May their soul rest in peace. I solemnly dedicate my research to my wife and my son who both provided me with moral support in a rather very lonely journey.

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ABSTRACT

The relevance or irrelevance of dividend payments has been the topic of much discussion for the past eight decades. The primary objective of this study was to determine the relationship between dividend policy and agency problems of financial services companies listed on the (JSE). Dividend Policy and the Agency Theory underpinned the study. Secondary data of sampled listed financial companies for the period 2005-2016 was sourced from IRESS database. Data was analysed using EViews version 9.

The results revealed that the presence of institutional ownership resolves the asymmetry information problems, and, reduces the need to pay dividends. The results also revealed that 54.69% of JSE listed companies under the financials' services sector practise dividend decisions. The results further revealed that the dividend payout ratio is positively correlated with ROE and LEV, and negatively correlated INST, DIRS and FOREIGN variables. The results confirmed the existence of agency problems on listed financial services companies.

Keywords: Dividend Policy; Residual Dividend Theory; Agency Theory; Agency Problems; Agency Cost Theory; Corporate Governance; Clientele Effect Theory; Bird in The Hand Theory; Signalling Effect Theory

ISISHWANKATHELO

Ukubaluleka okanye ukungabaluleki kokuhlawula izahlulo bekusoloko kusisihloko sengxoxo kumashumi asibhozo eminyaka edluleyo. Injongo ephambili yesi sifundo yayikukufumanisa ulwalamano phakathi komgaqo nkqubo wezahlulelo neengxaki zobumeli (ubuarhente) beenkampani ezinikezela ngeenkonzo zemicimbi yoqoqosho nezidweliswe kwi*Johannesburg Securities Exchange (JSE)*. Izisekelo zesi sifundo nguMgaqo Nkqubo Wezahlulo (*Dividend Policy*) neNgcingane Yobumeli (*Agency Theory*). Iqela lesibini ledatha yeenkampani ezidwelisiweyo kwiminyaka ye-2005–2016 yafunyanwa kwiqula leedatha elaziwa ngokuba yi-*IRESS database*. Idatha yahlalutywa ngokusebenzisa isixhobo sohlalutyo i*EViews version 9*.

Iziphumo zadiza ukuba ubukho babanini kwiziko loshishino buyazisombulula iingxaki zonxibelelwano olungalingani kakuhle kwaye kuyasicutha isidingo sokuhlawula izahlulo. Kwakhona, iziphumo zadiza ukuba ama-54.69% eenkampani ezidweliswe kwiJSE, phantsi kodidi lweenkampani ezinikezela ngeenkonzo zemicimbi yoqoqosho, enza izigqibo zezahlulo. Iziphumo zaphinda zadiza ukuba intlawulo yezahlulo ihambelana kakuhle neenqobo zeROE neLEV, kanti azihambelani neenqobo zeINST, ezeDIRS kunye nekuthiwa ziFOREIGN. Ezi ziphumo zangqina ukuba kukho iingxaki zobumeli/ubuarhente kwiinkampani ezinikezela ngeenkonzo zemicimbi yoqoqosho.

Amagama aphambili: Umgaqo Nkqubo Wezahlulo; Ingcingane Yezahlulelo Kwintsalela Yenzala; Ingcingane Yobunini; Iingxaki Zobunini; Ingcingane Yeendleko Zobunini; Ulawulo Lwequmrhu; Ingcingane Yefuthe Labatyali Mali; Ingcingane Yokugcina Into Onayo; Ingcingane Yefuthe Lezaziso

SETSOPOLWA

Bonnete le go se be bonnete ga ditefelo tša letseno e bile hlogo ya ditherišano tše dintši mo mo dingwagasome tše seswai tša go feta. Nepo ya motheo ya thuto ye ke go ela kamano gare ga pholisi le mathata a dikhamphani tša ditirelo tša Matlotlo tšeo di lego lenaneong la Johannesburg Securities Exchange (JSE). Pholisi ya Ditseno le Teori ya Etšensi ke motheo wa thuto ye. Datha ya magareng ya dikhamphani tša mašeleng tšeo di lego lenaneong la paka ya 2005–2016 e be e hwetšagala go tšwa go lenaneo la datha la IRESS. Datha e sekasekilwe go šomišwa EViews version 9.

Dipoelo di utullotše gore go ba gona ga bong ka gare ga sehlongwa go rarolla mathata a tshedimošo ya go se lekalekane, le go fokotša nyakego ya go lefa mašokotšo. Dipoelo le tšona di tšweleditše go re diperesente tše 54.69 tša dikhamphani tšeo di lego lenaneong la JSE ka fase ga ditirelo tša sekgao sa go phethagatša diphetho tša mašokotšo. Dipoelo di tšwetša pele go utulla go re ditekanyetšo tša ditefelo tša mašokotšo du sepelelana gabotse le ROE le LEV, le go sepelelana gannyane le INST, DIRS le FOREIGN. Dipoelo di netefatša go ba gona ga mathata a Etšensi ao a ngwadilwego lenaneong la dikhamphani tša ditirelo tša mašeleng.

Mantšu a motheo: Pholisi ya mašokotšo; Teori ya mašaledi a mašokotšo; Entšensi ya Teori; Mathata a Etšensi; Etšensi ya Theko ya Teori; Taolo ya Tlemagano; Teori ya Ditlamorago tša Clientele; Teori ya Bird in The Hand; Teori ya Ditlamorago bja Taetšo

ACKNOWLEDGEMENT

My humble appreciation to my supervisor Prof. MS Ngwenya, for unselfishly using his intellectual ability to promote my profession, his scholarly feedback and encouragements. Special gratitude to Prof. J Oloami my statistician, who gave financial sense to my data. My sincere thanks to the following colleagues:

- Prof. D Makina who encouraged me to join the academic field;
- Mr P Kotze who played a critical role to unlock data downloading challenges;
- Dr G Marozva who further assisted with my data formatting and preparation; and
- Mrs M van Zyl the departmental librarian who availed relevant research resources to our disposal.

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2SLS	−	Two Stage Least Square
3SLS	−	Three Stage Least Square
BE	−	Between Regression
BEE	−	Black Economic Empowerment
BFA	−	Bureau of Financial Analysis
CEE	−	Commission for Employment Equity
CEO	−	Chief Executive Officer
DPS	−	Dividend per Share
DW	−	Durbin-Watson
EBIT	−	Earnings Before Interest and Taxes
EGLS	−	Estimated Generalise Least Square
EPS	−	Earnings per Share
FE	−	Fixed Effect
GMM	−	Generalised Method of Moments
ILO	−	International Labour Organisation
IMF	−	International Monetary Fund
IRESS	−	Internal Ribosome Entry Sites Segments
IRMSA	−	Institute of Risk Management South Africa
IV	−	Instrumental Variables
JSE	−	Johannesburg Securities Exchange
LSDV	−	Least Squares Dummy Variable
MPS	−	Market Price per Share
OLS	−	Ordinary Least Square
POLS	−	Pooled Ordinary Least Square
PRASA	−	Passenger Rail Agency of South Africa
RE	−	Random Effect
REPS	−	Retained Earnings per Share
ROA	−	Return on Assets
ROE	−	Return on Equity
RRSS	−	Residual Sum of Squares from Restricted Regression
RSA	−	Republic of South Africa
RSS	−	Residual Sum of Squares

SAA	−	South African Airways
SABC	−	South African Broadcasting Corporation
SOE	−	State Owned Enterprises
SPSS	−	Statistical Package of Social Science
SUR	−	Seemingly Unrelated Regression
TELKOM SA	−	Telecommunications of South Africa
URSS	−	Residual Sum of Squares from Restricted Regression
US	−	United States
WB	−	World Bank

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The relevance or irrelevance of dividend payments has been the focus of much scholarly discussion for the past eight decades. Three main contradictory theories of dividend policies are commonly identified in finance literature, namely, the high dividends increase share value theory (or the so-called “bird-in-the-hand” argument), the low dividends increase share value theory (the tax-preference argument), and the dividend irrelevance hypothesis. The theoretical framework of relevance or irrelevance of dividend payment emerged from seminal work of distinguished scholars such as Modigliani and Miller (MM, 1958; 1961). Similarly, the genesis of the Agency Theory literature emanated from seminal papers of the renowned scholars such as Berle and Means (1932) and Jensen and Meckling (1976).

According to Basith (2013), the dividend policy is the payout policy that a company pursues in determining the size and pattern of proceeds distributions to shareholders over time. A company’s board of directors, with the input of executive management, together with relevant stakeholders determines companies’ dividend policy. In corporate practice, the separation between ownership and control determines the genesis of the the Agency Theory (Lambrechts, 1992:27). In addition, the Agency Theory stipulates that dividend payouts signal reduction in agency costs rather than future profitability (Adjaoud, Chkir & Saadi, 2006). Brigham and Gapenski (1993:21) define agency cost as all internal costs borne by shareholders to encourage managers to increase shareholder value instead of acting in their own interest. Furthermore, Cohen and Uliana (1990:8) mentioned numerous examples of agency costs which are as results of agency problems. They include executive levels of management remuneration; shrinking (neglect of duty); the appropriation of excessive levels of perks; the pursuit of sales growth at the expense of profit or shareholder wealth; empire building by managers; manipulation of dividend policy at the expense of shareholder wealth creation**.** Therefore, the study concluded that, if any of these

agency costs are observed in a corporate organisation, one can conclude that an agency problems do exist.

Similarly, Boshkoska (2015) argues that one of the measures that can be used to overcome agency problems is to incentivise executive managers financially. Accordingly, this can be done by calculating executive managers' bonuses as a percentage of the realised profits of the company. The following agency costs are borne out of conflict of interests between principal and agents: Internal audit; change in the salaries and payments of the managers; concentrate ownership; market of capital; law/legal frame (Boshkoska, 2015). In order to accomplish strong corporate governance of the company, internal audit plays vital role. It helps to monitor the efficiency of the company, to identify and hault the eventually inefficient companies' operations as well as to protect the shareholders' assets and capital (Jovanova, 2014).

Meanwhile, Cai, Hiller, Tian, and Wu (2015) reported that audit committee is significant in enhancing manager's efficiency and minimising the agency costs. Dividend-Agency Theory, further developed by Rozeff (1982), Easterbrook (1984), and Jensen (1986), postulates that cash dividends can be used as a tool to solve or alleviate the corporate agency problems. Meanwhile, in South Africa, the Johannesburg Securities Exchange (JSE) listed companies continously pay dividends; yet they experience agency problems as reported by Piketty (2014). As such, the current study sought to determine dividend-agency relationship of financial services companies listed on the JSE. Furthermore, an empirical investigation of companies listed on the JSE found that agency problems do exist in a significant number of companies in South Africa (Lambrechts, 1992). It is an assumption of the the dividend policy that the payment of the dividends resolves the agency problems.

Rajan (2005) published a critical paper suggesting that executive compensation practices in the American financial sector were creating significant risks for the global financial system. As such, empirical evidence found that the average United States (US) corporate chief executive's salary has grown from 42 times to 400 times an average worker's salary without an accompanying improvement in company performance (Bogle, 2010). Rajan (2005) identified a weak pay-performance relationship in the financial industry services as potential risks to the entire financial system in the long run. Rajan (2005) asserts that executives in the financial services

sector received substantial incentive payouts despite engaging in business practices that eroded company performance, threatened company sustainability and the entire financial system in the long run. The substantial incentive payouts are often advanced as dividends payouts in the form of performance bonuses. Therefore, executive compensation can be critically analysed not only as an instrument for addressing agency problems arising from the separation of ownership and control, but also as part of the agency problems itself (Bebchuck & Friend, 2003). In line with this assertion, the concurrent existence of dividend payments and agency problems on the JSE listed companies warrants, the need to investigate the relationship between dividend policy and agency problems in a South African context.

Piketty (2014) further confirms a weak pay-performance relationship by industry, in this regard JSE listed companies. Accordingly, Piketty (2014) observed that despite non-significant companies' performance, two thirds of the increase in income inequality were attributable to drastic wage increases for the executive management. The process of aligning the wealth interests of management to that of the shareholders has led to dividend payments partly contributing to the income inequality globally and particularly in South Africa. This income inequality is best captured through Gini Coefficient index of 0.8 World Bank (WB) (2018), which is calculated periodically and determines the level of inequality between high-income groups and groups earning a basic wage. South Africa consistently ranks among countries with the highest levels of inequality (World Bank, 2018). The Institute of Risk Management South Africa (IRMSA, 2015), in its top ten high profile risks for Republic of South Africa (RSA), included severe income disparity, structurally high unemployment/underemployment and corporate governance failures such as the collapsed of African Bank meanwhile Post Bank needs government bail out.

In the public sector, the majority of municipalities are essentially defunct and consistently receives qualified audits further confirmed the poor state of corporate governance (IRMSA, 2015). Subsequent to Rajan (2005) warnings of the world's potential financial crisis owing to agency problems in the form of executive compensation in the financial services sector in this regard in America. In 2008, the financial services industry underwent a liquidity crunch; Lehman Brothers and Bear Stearns were insolvent while other banks received government bail outs (Bussin,

2015). The aforementioned literature further demonstrates the role played by dividend policy that contributes to income inequality and financial instability. Meanwhile, the Agency Theory sought to determine link between executive compensation and companies' performance (Jensen & Meckling, 1976).

The rest of the chapter is structured as follows: Section 1.2 discusses contextualisation of the study. Section 1.3 focuses on the problem statement. Section 1.4 discusses objectives of the study covering both primary and secondary objectives. Section 1.5 focuses on the research questions. Section 1.6 discusses the literature review. Section 1.7 discusses the choice of dividend decision. Section 1.8 discusses dividend-agency relationship from emerging markets. Section 1.9 discusses dividend agency relationship from local markets. Section 1.10 discusses research methodology: covering research design; data collection; sampling technique; data analysis. Section 1.11 discusses scope and demarcation of the study covering reliability and validity. Section 1.12 discusses limitations of the study. Section 1.13 discussed delimitation of the study. Section 1.14 discusses significance of the study. Section 1.15 discusses ethical considerations. Section 1.16 concludes Chapter 1.

1.2 CONTEXTUALISATION OF THE STUDY

The structural economic inequality is partly to be blamed on South Africa historical trajectory of racial exclusion from education, work opportunities, land, and finance (World Bank, 2018b). This practice critically determined the genesis of the current economic situation in South Africa. It will also take multifaceted efforts, inclusive of good corporate governance through the role played by dividend-agency theory to achieve social cohesion. The state will need to promulgate new laws to level playing field at workplace,meanwhile, rescinding discriminatory laws. Therefore, it is only fair to argue that inequality is partly the consequence of historically unjust laws, which are subsequently mentioned in the paragraph that follows

The Union of South Africa, formed in 1910, was characterised by a political partnership between English speaking and Afrikaans speaking whites, representing their mining and agricultural interests respectively (Bhorat, Naidoo & Yu, 2014). This Union formally excluded the African majority from any formal political expression and meaningful participation in the economy. A series of bias and racial laws were passed

that would deleteriously impact on the smooth functioning of the labour market (Bhorat et al., 2014). For instance, the 1911 Mines and Works Act reserved skilled mining jobs for whites only. Also, the Pass Laws curtailed the free flow of African migrant labour, thereby forcing many African workers into low wage sectors and occupations (Van der Berg & Bhorat, 1999; Woolard, 2001). These systematic circumstances are inextricably intertwined with the high levels of inequality South Africa currently faces (World Bank, 2018). The current inequalities in the South African labour market are largely attributed to the past statutory discrimination in the workplace, such as job reservation and other factors aforementioned (Commission for Employment Equity report (CEE), 2014 – 2015). To level the playing field at workplace and ensure stability, government promulgated the Employment Equity Act (EEA) as well as affirmative action to be adopted by all JSE listed companies. It is expected that companies operating in South Africa should comply with these government policies for stability and performance purposes. In 2014, white South Africans held seventy percent (70%) of top management positions in the private sector (CCE, 2014 – 2015). Such statistics reflected a slow pace of transformation in the workplace, which undermines government objectives of equality, stability and maximum performance for business.

According to International Labour Office (ILO, 2015) social unrest globally is 10% higher than before the 2008 financial crisis, which pushed many countries, including South Africa, into recession. The unrest was largely the result of increasing inequality, with the richest 10th people earning 30-40% of total income, while the poorest 10th only accounted for 2-7% total income (ILO, 2015). Although the Agency Theory has offered dividend payments as a solution to agency problems, the above research vigorously rejects this assumption.

In 2015, massive European refugee's also known as European refugee's crisis 2015 last seen in the Second World War has brought unrest in the European countries (ILO, 2017a). Countries such as Greece, Turkey and Argentina perpetually survived on bail out loans from International Monetary Fund (IMF) and World Bank (ILO, 2016b). This further shows levels of poverty globally. In 2011, the Egyptian revolution, popularly known as Arab Spring sparked largely by inequality manifested in high rate of unemployment, poverty and government corruption, brought unrest in the North Africa (ILO, 2017a). In South Africa, in August 2012, mineworkers went on strike demanding

salary increment. This ended up with 34 mineworkers, killed Council for the Advancement of the South African Constitution report (CASAC, n.d.). This further demonstrates the instability caused by remuneration. Again in October 2015 students across all over South African universities demanded zero percent fee increase. These protests brought yet another unprecedented unrest in the country. At times, South Africa turns to face sporadic land grabs (CASAC, n.d.), which often brings some degree of instability. The income inequality partly contributes to some of these socio-economic issues mentioned above. Therefore, this justifies an investigation of the relationship between dividend policy and agency problems of companies listed on the JSE, particularly when dividend-agency relationship is partly blamed for the income inequality (Rajan, 2005; Fahlenbrach & Stulz, 2011).

According to the Agency Theory, Chief Executive Officers' (CEO) remuneration is an efficient means of aligning executive interests more closely with those of shareholders through a remuneration contract that rewards superior company performance (Jensen & Meckling, 1976). Similarly, Boshkoska (2015) argues that one of the measures that can be used to overcome agency problems is to compensate managers financially. Accordingly, this can be done by calculating managers' bonuses as a percentage of the realised profits of the company. In line with this assertion, McKnight and Weir (2009) underscores that corporate governance mechanisms are used to mitigate agency conflict; henceforth, realign managers and shareholders' interests. Subsequently, Ozkan (2007) asserts that it is widely believed that the link between executive remuneration and company performance is not strong enough, implying that executives receive their remunerations regardless of the results of their respective organisations. These findings concur with Rajan (2005) who had identified a weak pay-performance relationship in the financial industry services as a cause for financial instability, and this trend continues unabated. In fact, Rajan (2005) assertions were later confirmed by Bebchuk and Spamann (2010), Haldane (2011), and Fahlenbrach and Stulz (2011) who contend that executive remuneration policies were partly responsible for the collapse in market capitalisation of the United States (US) banks and subsequent global financial crisis.

The corporate practice of continuous payment of dividends despite poor performance by companies got the attention of Black (1976:8) who termed this practice the

“dividend puzzle”. Black’s (1976:8) critical arguments against corporate practice on dividend payments emanated from seminal work of the celebrated Nobel laureate scholars Modigliani and Miller (MM, 1958). Modigliani and Miller (1958) argue that dividends should be paid out of cash flows, and when the company has exhausted all the investment opportunities, then dividends should be paid out of retained earnings. This is commonly known as the dividends irrelevance and residual theory. The leading pioneers of the Irrelevance Theory are Modigliani and Miller (1961:414) who based their argument on an abstract world that, under perfect capital markets with no taxes, transaction costs and other market imperfections, then dividends are irrelevant and cannot be used to determine the value of a company’s shares or the company value is independent of the dividend policy. Instead, the value of the companies is solely dependent on the earning power of the company’s assets and its investment policy, and not by how its profits are distributed to shareholders (Modigliani & Miller, 1961:414).

Despite voluminous empirical research on dividend policy, the corporate finance researchers and industry role players still hold divergent views. On the Agency Theory, assumptions are that dividend payment is an efficient means of aligning executive interests more closely with those of shareholders through remuneration. It has been the argument of the Irrelevance Theory school of thought that continuous payment of dividends despite poor company performance is not a sound financial decision (Black, 1976).

The theory of dividend policy is focused on two opposing schools of thought namely: dividend irrelevance and residual on the one hand and Dividend Relevance Theory on the other. An empirical literature by Black and Scholes (1974), Miller and Scholes (1978), and Miller (1986), supported the dividend irrelevance argument. Similarly, evidence from industry from companies such as Apple and Google only started to pay dividends in the early 2010s (Cciccia, 2012). This is a practical demonstration by the industry, that maximising companies value has little or nothing to do with the payments of dividends. In light of this evidence, the payment of dividends becomes a corporate finance mystery. Furthermore, this demonstration by the industry confirms the proposition put forward in the irrelevancy theory, which states that; ‘you may pay dividends only when you have exhausted all your investment opportunities.

In line with the views of Modigliani and Miller (1961) with respect to dividend irrelevance is the residual theory, which focuses on making the best investment decisions to maximise companies share value. According to this approach, as long as the company's equity need exceeds the amount of retained earnings, no cash dividend should be paid out. The argument for this approach is that, it is sound financial management to be certain that the company has the liquid financial resources it requires to compete effectively. This view of dividends suggests that the required return of investors, ks, is not influenced by the company's dividend policy, a premise that dividend policy is irrelevant (Modigliani & Miller 1958:1961). In stark contrast to the dividend, Irrelevance Theory is the relevance theory. Relevance theory is based on the real world scenario. Based on the assumption of imperfect markets, where there are flotation costs, transaction costs and taxes, then dividends do matter (Easterbrook, 1984). Building on the beliefs of relevancy theory, Lintner (1956:98) found that, companies typically set long-term targets dividend payout ratios. Moreover, dividend changes tend to lag behind earnings, that is, increases in earnings are followed by increases in dividends and decreases in earnings sometimes by dividend cuts. Furthermore, Gordon (1963:265) and Lintner (1962) were the first proponents of the relevance of dividends in creating shareholder wealth. They argue that there is a direct relationship between a company's dividend policy and its market value. Lintner (1956:98) proposed the two-variable dividend model. Fama and Babiak (1968:1160) tested this model on the dividend data on 392 major North American industrial companies for the period 1946 to 1964. They found that Lintner's (1956:98) dividend model succeeded in explaining the dividend changes of individual companies in North America.

An association of agency costs and dividend policy forms part of developments in the corporate finance theory. Ross (1973) first propagated finance corporate theory and later extended by Jensen and Meckling (1976), to explain the conflict of interest between corporate managers (agents) and shareholders (principals). Agency theory argues that dividend mechanism provides incentives to managers to reduce costs relative to the principal agent relationship. Given this theoretical assumption by Ross (1973), Jensen and Meckling (1976), the current study sought to determine the extent to which dividend-agency relationship of financial services companies listed on the JSE resolves agency problems.

Empirical evidence by La Porta, Lopez-de-Silanes, Shleifer and Vishny (1999) found that, the Agency Theory provides a point of departure from the assumptions of the Modigliani and Miller theory (1958) by recognising two points. Firstly, the investment policy of the company cannot be taken as being independent of its dividend policy, and, in particular, paying out dividends may reduce the inefficiency of marginal investments. In line with this view in South Africa, Botha (1985:3) notes that investment, financing and dividend decisions are interdependent and must be resolved simultaneously. Secondly, the allocation of all the profits of the company to shareholders on a pro-rata basis cannot be taken for granted, and in particular the insiders may get preferential treatment through asset diversion, transfer prices and theft, even holding the investment policy constant.

Against this background, this study sought to investigate the relationship between dividend policy and agency problems of financial services companies listed on the Johannesburg Securities Exchange (JSE). The objective of the study was to determine the extent to which dividend policy and agency problems reconcile in achieving the goal of maximising shareholders' wealth. Conflict of interest between corporate insiders, such as managers and controlling shareholders, and minority shareholders are central to the analysis of the modern corporation (Berle & Means, 1932; Jensen & Meckling, 1976).

1.3 PROBLEM STATEMENT

The development and growth of the JSE listed companies has led to an ever-widening gap between control and ownership (Lambrechts, 1992). It is this separation between ownership and management, which forms the genesis of the Agency Theory (Lambrechts, 1992:27). Easterbrook (1984) suggests that one way of solving agency conflicts is to increase the dividend payout ratio. However, this has some cost implications, with an accompanying detrimental effect on the wealth of the owners. Henceforth, the current study set out to determine the extent to which dividend-agency relationship of companies listed on the JSE reconciles to achieve the goal of maximising shareholder wealth against the backdrop of agency costs.

Based on dividend policy, de Wet and Mpinda (2013) conducted a study to determine relationship between dividend and shareholders' wealth. The results indicated that in

the long run, dividend yield is positively related to market price per share, while earnings per share do not have significant impact on the market price per share. On agency problems, a study was conducted to determine a relationship between control and separation of ownership of companies listed on the JSE (Steyn & Stainbank, 2013). The results found that a dominant shareholder controls the majority of companies in South Africa. Therefore, this should resolve agency problems as per the Agency Theory proposition. Furthermore, the control by dominant shareholder serves to substitute the use of dividends as monitoring mechanisms.

The current study found a point of departure from the above previous studies in that it was set out to investigate the relationship between two variables across both dividend policy and agency problems of financial services companies listed on the JSE. Meanwhile, the previous studies were focused on a relationship within dividend policy or agency problems separately from each other. The literature reviews highlighted conflict in research results, in that dividend assumption theories argued that the payment of dividends resolves agency problems. However, Lambrechts (1992), de Wet and Mpinda (2013); and Steyn and Stainbank (2013), Piketty (2014) report that JSE listed companies pay dividends and yet they experience agency problems. This triggered the current study to investigate the relationship between dividend policy and agency problems of financial services companies listed on the JSE. Furthermore, the literature revealed a void in that, no similar studies were conducted in South Africa, and this has been identified as part of the gap for the current study. The study sampled data from all sub-sectors of the financial' services companies and this too has been identified as a gap.

1.4 OBJECTIVES OF THE STUDY

Fouché and De Vos (2011:94) define research objectives as clearly identified steps the researcher has to take to achieve the goal of the study. They include exploration, description, explanation, correlation, evaluation, intervention and action research. According to Fouché and De Vos (2011:96), correlational research was often used towards explanatory research with a view to determine whether a relationship exists in this regard between dividend-agency variables without focusing on a cause effect relationship between variables. The cause effect relationship between dividend-

agency variables was not the main focus of the study but served as a secondary objective to the study.

1.4.1 Primary Objective

The primary objective of this study was to determine the relationship between dividend policy and agency problems of financial services companies listed on the Johannesburg Securities Exchange (JSE). In this study, explanatory research was relevant in achieving the primary objective, therefore, determining the relationship between dividend-agency variables as defined by Fouché and De Vos (2011:96).

1.4.2 Secondary Objectives

In order to achieve the primary objective, the secondary objectives were developed as follows:

- To determine the relationship between dividend policy and agency problems of financial services companies listed on the JSE.
- To determine the extent to which dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems.
- To determine the extent to which dividend-agency relationship reconciles to achieve the goal of maximising shareholder wealth of financial services companies listed on the JSE.

The secondary objectives sought to determine variables' relationship in order to find out the extent dividend-agency theories reconcile, to achieve the goal of shareholders' wealth maximisation.

1.5 RESEARCH QUESTIONS

Quantitative research questions inquired about the relationships between dividend-agency variables that the investigator seeks to know (Creswell, 2014). The following research questions guided this study to its objectives:

- What is the relationship between dividend policy and agency problems of financial services companies listed on the JSE?

- What role does the dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems?
- What influence do the factors that underpin both agency problems and dividend policy of financial services companies listed on the JSE have on the shareholder wealth maximisation?

1.6 THE REVIEW OF LITERATURE

This chapter investigates empirical evidence and current theoretical thinking on the relationship between dividend policy and agency problems. Notably, dividends policy has evolved and adjusted in response to ever-changing business conditions, market parameters and regulations. By understanding that dividend policy has evolved and did not just appear in its current form provides important perspectives about why dividend policies vary widely across companies and countries over time.

Corporate practices demonstrate that despite the robust empirical evidence on the irrelevance of dividends, however, corporations follow aggressively deliberate dividend payout strategies (Lintner, 1956:98). This evidence by companies leads to the following questions, which forms the core of the dividend puzzle: What could be the theoretical assumptions for companies to pay dividends? Out of this questioning (popularly known as dividend puzzle), corporate finance was shaped into its modern current form. Financial economists, through empirical evidence, advanced various reasons why companies consistently pay dividends, among others are the following: Signalling Theory, tax preference theory, Clientele Effect Theory and agency cost theory. These are the theories that seek to justify the relevance of paying dividends.

However, this review shall examine the main dividend theories: dividend irrelevance and residual on the one hand and Dividend Relevance Theory on the other in association with the Agency Theory. Nevertheless, it is not the focus of the study to contrast the different schools of thought within the dividend policy and justify the relevance or irrelevance of dividends, rather to investigate the relationship between dividend policy and agency problems, to what extent this relationship reconciles to achieve the goal of maximising shareholder wealth, which translates into maximising company value. Dividend puzzle has marshalled dividend policy to be at war with itself through its opposing schools of thought that is dividend irrelevance and residual theory

championed by Modigliani and Miller (1958; 1961). The dividend puzzle was driven through probing questions, which dictated the course of research to its current form. On the opposing school of thought was dividend relevance under the guard of Graham and Dodd (1951), Lintner (1956); as well as Gordon (1959), who then developed assumption theories (Bird in the hand, Clientele Effect Theory, Signalling Theory to mention just a few) to respond to the dividend puzzle and justify the relevancy of dividends.

1.7 THE CHOICE OF DIVIDEND DECISION

Dividend decisions in the form of dividend policies, which form the focus of this study, involve the determination of the payout policy that management follows in determining the size and pattern of cash distributions to shareholders over time (Lease, John, Kalay, Loewenstein & Sarig, 2000:1). It is acknowledged as common practice that there are different principal mechanisms by which corporations distribute cash to shareholders, which include ordinary annual dividend payments, special dividends and share repurchases. In an attempt to understand the relationship of share repurchases with dividend policy, Baker, Powell and Veit (2002) posed a question. What determines management choice of cash distribution over the other, against backdrop that dividend and share repurchases though similar but are imperfect substitutes?

In line with Brav, Graham, Harvey and Michaeli's (2005) quests for answers to the question above, the researchers conducted a survey that revealed that managers' view dividend signals as containing more information than share repurchases. Henceforth, they are more concerned with dividends as opposed to share repurchase. However, some empirical evidence observed that share repurchases became a popular means of distributing excess cash as from 2005 in South Africa (Wesson, 2015). This development of share repurchase is partly attributed to the implementation of the Companies' Amendment Act 37 of 1999, which saw share repurchases being allowed for the first time in South Africa as from 01 July 1999 (Wesson, 2015). The choice of dividend decision as a better mechanism to distribute cash to shareholders is well developed and substantiated by the following theories underlying dividend policy: tax preference theory, dividend Clientele Theory, the Agency Theory, and Bird

in the Hand Theory, which are put forward to substantiate the relevance of dividend payout ratio. Accordingly, the current study has chosen two of these dividend underlying theories: dividend policy and agency problems and seeks to investigate their relationship, with regard to resolving agency problems, therefore maximising shareholders' wealth. The other mechanisms of cash distribution lack empirical backing that could position them as mechanisms of choice. These theories shall be further dealt with in the literature review.

1.8 DIVIDEND-AGENCY RELATIONSHIP FROM EMERGING MARKETS

In his study of Indian companies, Manos (2002) observed that payment of dividends is one of the measures available to managers for controlling agency behaviours, and concluded that by inducing external monitoring, dividends reduce agency problems and costs. Similarly, Easterbrook (1984) argues that the reduction of agency problems is best achieved by increasing dividend payout (dividend policy). Empirical evidence from Tunisia found that dividends play a crucial role in limiting the power of top management and their expropriation activities and consequently remove justifications of the agency problems by dividend policy (Faccio, Larry, & Young, 2001).

Agency theory considers dividends as a determinant of the agency conflicts between insiders and outsiders as well as between block holders (large shareholders) and minority shareholders (Jensen & Meckling, 1976). Under such conditions, the level of dividend payout depends on shareholders' legal protection. In countries with the strongest protection (common-law), companies distribute higher dividends than in countries with poor protection (civil law). Furthermore, the Agency Theory argues that dividend policy and governance mechanisms are substitute devices to control insiders' opportunism and entrenchments. From the aforementioned studies, it is worth noting that legal protection plays a vital role in influencing the dividend decision, especially considering that developing countries are generally having a weaker legal protection relative to developed countries. In addition, the appearance of corporate governance as a control mechanism to reduce agency problems and costs as a substitute to the most taunted dividend policy further necessitates the current study.

In Thailand, Baker and Powell (1999) investigated this unresolved issue of dividend policy and found inconsistent results owing to countries' effects. In addition, Chay and

Suh (2009) pointed out that the difference of rules, regulations and cultures in each country will affect the dividend policy. As such, dividend policies in those different countries should be different. At company level, various factors such as free cash flow, company size, growth rate, growth opportunity, business risk, and company profitability impact on dividend payout ratios. Although the above studies from emerging markets are confirming that dividend policy does reduce agency problems and costs, the research is not of similar studies conducted in South Africa. Accordingly, the issues of country-to-country effect and company-to-company specifics, further warrants the current study as these results cannot be generically applicable across emerging markets, considering country and company characteristics. In support of this argument, care must be taken not to generalise the findings of ownership and other governance related studies performed in developed countries to developing countries (Afshan, Chetri & Pradhan, 2011). This study sought to contribute to literature by focusing on selected listed financial services companies in South African case, considering all the factors mentioned above, which could influence dividend policy.

1.9 DIVIDEND-AGENCY RELATIONSHIP FROM LOCAL MARKETS

Dividend policy in South Africa has been extensively studied from the early 1980s (Firer, Gilbert & Maytham, 2008). However, none of those studies focused on dividend-agency relationship on JSE listed financial services companies, nor to what extent this relationship achieves the goal of maximising shareholders' wealth, thereby increasing company value. Accordingly, this study frames herein few of the local studies and their findings. Only two studies surveyed company management to establish their views on issues surrounding the declaration of dividends.

Seneque and Gourley (1983) took a survey of 145 JSE listed companies and found that management at that time pursued dividend policy as an active variable, and strongly supported the view that continuity of payments and stable payout ratios were of great importance. These findings gave necessary impetus to the assertions for the relevance of dividend policy. When setting dividend policy, respondents were chiefly influenced by 'recorded earnings and the prospects of future earnings. Marx (2001) concurred with the above results by surveying financial directors of JSE listed companies. Overwhelmingly, the respondents believed that reasons for dividend

policy changes ought to be communicated to investors. These results came against the backdrop of information asymmetry as investors rely heavily on information communicated through dividends announcements and less on financial statements, as they were perceived to be inaccurate and management were accused of manipulating financial data. Studies based on data collected during times of relatively high inflation found that many companies paid dividends in excess of their real earnings. This suggests that at least maintenance of the current nominal dividend is an important factor in setting dividend policy. Empirical evidence from a sample of 33 JSE industrial companies over the period 1968 to 1982 indicate that dividend policy was not significant in explaining the changes in shareholder wealth from year-to-year (Du Plessis, Archer & Affleck-Graves, 1986; Botha, Bosch & van Zyl, 1987; Gevers & Hamman, 1988).

It suffices to say, although these local findings were focused on dividends, they are of little significance to the focus of the current study. These findings were focused on various variables in relation to dividend policy, but not specifically on the dividend-agency relationship and its significance on shareholders' wealth maximisation, which is the focus of the study. It is worth noting that this empirical evidence insinuates that dividend policy was not significant in explaining the changes in shareholder wealth. The current study investigated the relationship between dividend policy and agency problems of financial services companies listed on the JSE. Du Plessis et al. (1986) empirical evidence did not reflect on the relationship between dividends-agency relationship, henceforth, creates a void that warrants the current study. A number of acts were promulgated in South Africa since the period of the above empirical evidence. For instance, share repurchases were only allowed as from 01 July 1999, following the implementation of the Companies' Amendment Act 37 of 1999 (Wesson, 2015). During the period 1999 to 2009, secondary tax on companies (STC) was payable on dividend and was governed by sections 64B and 64C, Income Tax Act, No. 58 of 1962 (Wesson, 2015:15). According to Wesson (2015), share repurchases became a popular means of distributing excess cash as from 2005 in South Africa. These tax legislations had a direct impact on dividends decisions in South Africa, which further creates a need to investigate the relationship between dividend policy and agency problems of financial services companies listed on the JSE.

1.10 RESEARCH METHODOLOGY

1.10.1 Overview of the research methodology

The research problem, research questions, objectives and literature review underpinned by dividend-agency theories helped to determine methodological choice of the current study, which is quantitative research design. Meanwhile, qualitative research design is most suitable when study variables and theories that underpinned the study are inadequate (Leedy & Ormrod, 2016). Furthermore, qualitative research design is bias in favour of exploratory studies, therefore not suitable for the current study since it is not exploratory inclined.

On the contrary, quantitative research design determines the relationship between dependent variables and independent variables, which are measured numerically and analysed using panel statistical technique (Saunders et al., 2016). This methodological choice resonates with the current study in that we are determining dividend-agency variables using panel data statistical techniques. Executive directors make dividend decisions intended to resolve agency problems and this perfectly fits well with quantitative research design associated with positivism for the study. Qualitative data are conducted based on human interviews and survey therefore largely subjective, prone to human error and bias in data interpretation (Cooper & Schindler, 2014). Meanwhile, quantitative research design adopted secondary data and the researcher was not a participant in its collection, therefore ensuring objectivity of statistical data analysis.

1.10.2 Research Design

The research design refers to specific procedures undertaken in the research process, namely, data collection, data analysis and report writing (Creswell, 2014). To address research problem, this chapter introduced a classification of research designs: exploratory, descriptive and causal research (Cooper & Schindler, 2014). It is not the intent of this study to develop hypotheses or questions for further research as prescribed by exploratory research. In resolving research problem, the research question was developed: “What influence do the factors that underpin both agency problems and dividend policy of financial services companies listed on the JSE have on the shareholder wealth maximisation? This study was descriptive in nature as this

was demonstrated by the research questions. The aforementioned research question sought to investigate the influence of the factors that underpin both agency problems and dividend policy had on the shareholder maximisation of financial services companies listed on the JSE, therefore causal research study. This simple means that correlational design in this quantitative study aimed to measure the degree of association between two or more variables of dividend-agency problems against shareholder wealth using the statistical procedure of correlational analysis (Creswell, 2014).

1.10.3 Data Collection

The research questions were empirically answered using secondary data collected from IRESS database, supplemented with information from profile stock exchange handbook for the period 2016. Justification for the use of annual reports and financial statements from IRESS database is that these financial statements are audited and standardised. This desktop information was acquired from online services of the stock exchange.

1.10.4 Sampling Technique

Sampling may be defined as the selection of some part of an aggregate or totality based on which a judgment or inference about the aggregate or totality is made (Cooper & William, 1995). The JSE is made up of different sectors, namely, manufacturing, consumer services, consumer goods, financial services, health care, industrial, oil and gas, technology, telecommunication, and utilities. Each sector has different subsectors composed of listed companies. These listed companies form a population of 410 companies listed on the JSE as of 2016. Owing to financial constraints, the current study only focused on the financial services sector. South African financial services sector operates under tight regulatory regime, thus, data is easily available for research purposes. This sector has a population of 236 listed financial services companies with 20 sub-sectors or strata. The sub-populations are not equal as some are bigger than others. To correct for this imbalance on a characteristic of a sample, a proportional stratified sampling technique was used. Stratification ensures that each stratum (sub population) was represented in the sample in proportion to that existence in the population (Creswell, 2014). To ensure

that each stratum is fairly represented, therefore, the study adopted proportional stratification sampling technique.

1.10.5 Data Analysis

Descriptive statistics were used to determine dividend-agency relationship using central measures of tendency such as means, standard deviations and range values. This study adopted panel data regression analysis, which involved the cross section time analysis to ensure robust statistical findings between dividend-agency relationship. The multiple linear correlation regression was used to determine dividend-agency relationship for the period 2005 - 2016. Statistical package EViews statistical version 9 was used to perform statistical analysis.

1.11 SCOPE AND DEMARCATION OF THE STUDY

1.11.1 Reliability and Validity of the Findings

Reliability is concerned with estimates of the degree to which a measurement is free of random or unstable error (Cooper & Schindler, 2014). According to Cooper and Schindler (2014), validity refers to the extent to which a test measures what it actually wishes to measure. Conversely, reliability has to do with accuracy and precision of a measurement procedure. Creswell (2014) reports that there are two types of threats to validity, namely, threats to internal validity and threats to external validly. Furthermore, Shadish, Cook and Campbell (2002) define threats to internal validity as problems in drawing correct inferences about whether the covariation between the presumed treatment variable and the outcome reflects a causal relationship. Meanwhile, threats to external validity are problems that threaten researchers' ability to draw correct inferences from the sample data to other persons, treatment variables and measures (Cook & Campbell, 1979). To address selection threat to internal validity, the current study used probability sampling to ensure accuracy of measurements. The study covered a period of 12 years. Therefore, some companies might have fallen out owing to 2008 financial crisis or poor performance.

1.12 LIMITATIONS OF THE STUDY

The research designs for this study are determined based on the type of data which is secondary data and its availability. Annual financial statements of financial services companies listed from JSE forms the core of the secondary data for the study. In the data classification and analysis, limited proxy variables were chosen in order to limit and focus the scope of the study in terms of statistical testing. The current study only focused on financial institutions. Against this background, this study cannot be generalised for all companies listed on the JSE.

1.13 DELIMITATION OF THE STUDY

The study is delimited to focus on an investigation of the relationship between dividend policy and agency problems of financial services companies listed on the JSE. Therefore, this study is not focusing on the justification of the relevance or irrelevance of dividends policy. However, it assumes that there is a relationship between dividend policy and agency problems. Empirical evidence on the relationship between dividend policy and agency problems is highly skewed in favour of the developed economies, and less on emerging markets particularly South Africa. The study period is limited to twelve years from 2005 to 2016. This period is informed by the promulgation of the dividend legislation, which became applicable in 2012.

1.14 SIGNIFICANCE OF THE STUDY

This study sought to add value on the body of knowledge by focusing on dividend-agency relationship, particularly in a developing country. The study hopes to provide answers to some extent on persistent question: Why does industry continuously pay dividends regardless at times of poor performance (Black, 1976)? The study sought to explore possible solutions on challenges brought about by agency problems, in this regard focusing on JSE listed financial services companies. The previous study focused on a relationship between dividends and shareholder' value (de Wet & Mpinda, 2013). Meanwhile, Steyn and Stainbank (2013) focused on a relationship between control and ownership of companies listed on the JSE. The current study provides a point of departure in that it sought to combine both theories therefore, determine dividend-agency relationship. In addition, studies by Lambrechts (1992)

and Piketty (2014) simply confirmed the existence of agency problems on JSE listed companies. The study has identified dividend assumption theories and forms of ownership proxies and used them to answer research questions.

1.15 ETHICAL CONSIDERATIONS

Research ethics refers to the specific principles, rules, guidelines, and norms of research related behaviour that a research community has decided are proper, just, objective, fair, and appropriate (Davis, Gallardo & Lachlan, 2012). To maintain research integrity, the researcher has applied for the ethical clearance to Unisa Ethical Clearance Committee in order to abide by the research standards. This ensured that confidentiality and honest reporting is adhered to. In line with ensuring ethical standard reporting, results were reported on both positive and negative findings.

1.16 STRUCTURE OF THE THESIS

The structure of the thesis is organised in a schematic graph representation as exhibited in figure 1.1. The overview of the key components of each chapter of the thesis, are introduced through an introduction. Meanwhile, each chapter concludes with chapter summary. Essentially, the chapter summary seeks to highlight the key components that formed the discourse. This model structure of the thesis enabled the researcher to position each chapter to bigger perspective of the study focus. The detailed summary of each chapter is contained in chapter five (5).

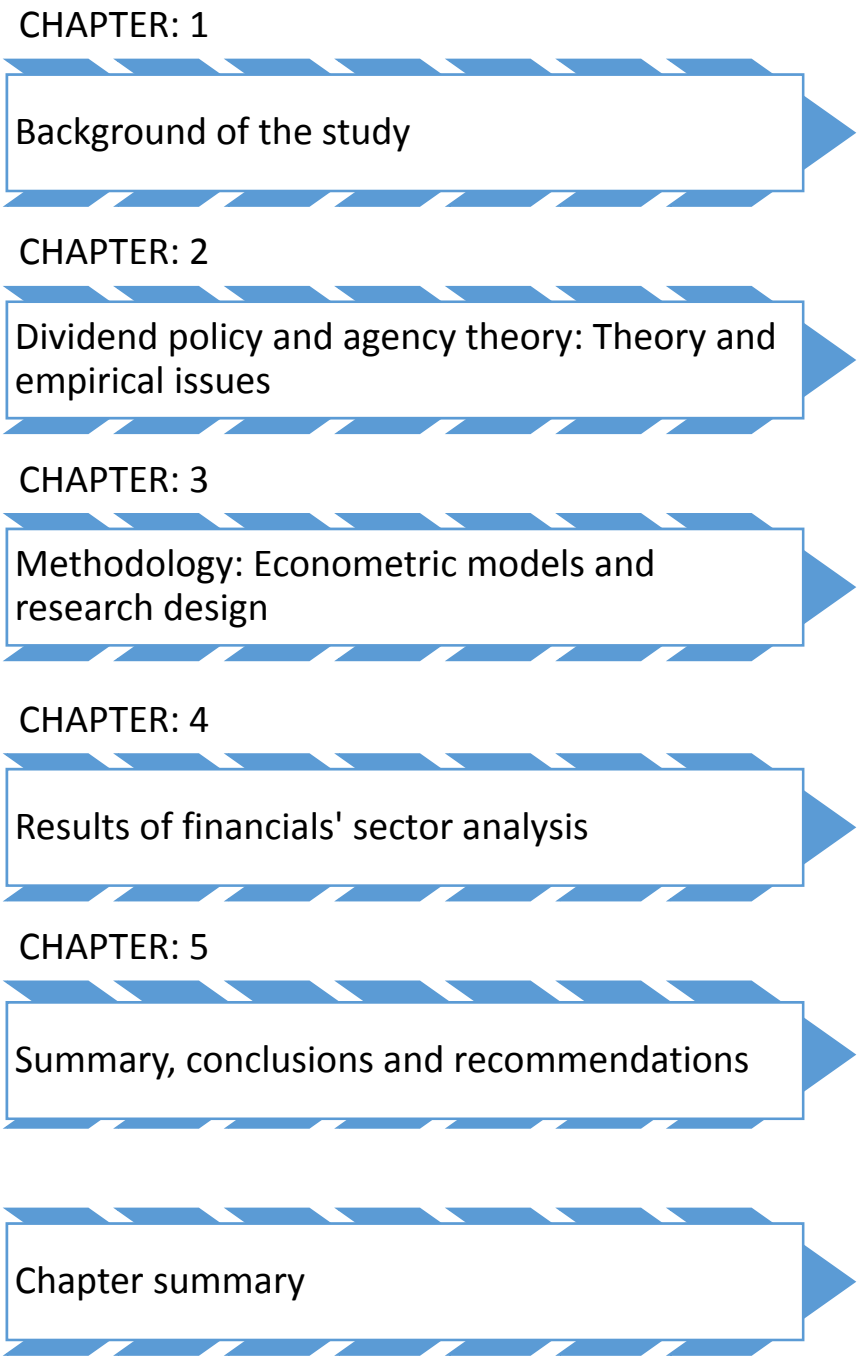


Figure 1.1: Diagrammatic structural framework of the thesis

Source: Researcher's own compilation, 2018.

Figure 1.1 provides structural framework to guide the study to its research objectives. The thesis structural framework sought to demarcate the main theme for each chapter within the bigger picture of the study. The next paragraph is the chapter summary of the current chapter.

1.16 CHAPTER SUMMARY

Essentially, this chapter unpacked the study through defining key words such as dividend policy, the Agency Theory and agency cost. This chapter discussed the contextualisation of the study. The research questions together with the objectives of the study were outlined to help focus the study. The rationale behind the choice of dividend decision was discussed at length in this chapter. In its investigation, the current study discussed dividend-agency relationship from an emerging markets perspective, scaling down to the local markets. To answer the research questions and achieve research objectives, this chapter outlined research methodology together with its instruments such as research design, data collection, sampling technique, and data analysis.

The next chapter deals with the dividend-agency theoretical framework together with empirical literature from similar previous research. Both dividend policy and the Agency Theory were anchored on assumption theories, which were critically discussed in the following chapter. The next chapter reviews corporate finance literature in line with dividend-agency assumptions theories.

CHAPTER 2

DIVIDEND POLICY AND AGENCY THEORY: THEORY AND EMPIRICAL ISSUES

2.1 INTRODUCTION

The previous chapter dealt with the contextualisation of the study rationale and defined the key concepts that underpin the research topic. Furthermore, the previous chapter also identify research gap. Essentially, the previous chapter outlined research methodology, research design, data collection, sampling technique, and data analysis. The research questions and objectives were also outlined. Moreover, the choice of dividend decision by management was discussed in the previous chapter. The dividend-agency relationship from emerging markets and local markets perspectives were discussed. The previous chapter outlined the following: scope and demarcation of the study; study limitations; significance of the study; ethical consideration; and conclusion.

The rest of the chapter is organised as follows: Section 2.2 discusses theoretical framework. Section 2.3 delves into details on the review of the literature on dividend-agency relationship. Section 2.4 focuses on corporate Dividend Relevant Theory covering Clientele Effect Theory Taxes and Clientele Effect Theory, Signalling Theory / asymmetric information, and Bird in the Hand Theory. Section 2.5 discusses pillar 3 disclosure. Section 2.6 covers corporate dividend Irrelevance Theory. Section 2.7 discusses residual dividend theory. Section 2.8 discusses the Agency Theory, covering institutional ownership, and insider ownership. Section 2.9 discusses agency cost, covering outcome model, and the Substitution Model. Section 2.10 concludes this chapter.

2.2 DIVIDEND-AGENCY THEORETICAL FRAMEWORK IN SUMMARY

Agency theory focuses on separation of ownership from control (Smith, 1776). Consequently, this separation led to agency problems and agency costs. Therefore, Berle and Means (1932), Jensen and Meckling (1976) and Shleifer and Vishny (1986)

had advanced a proposition that agency costs can be reduced by substituting dividends with managerial ownership (DIRS), institutional ownership, foreign ownership, and leverage. Meanwhile, Modigliani and Miller (MM, 1958; 1961) offered dividend irrelevance and residual theories to resolve agency problems together with Lintner (1956), Gordon (1959) and Easterbrook (1984) who advocated Dividend Relevance Theory. Accordingly, these theories formed the foundational core of dividend-agency theoretical framework for this chapter.

To determine dividend-agency relationship of JSE listed financial services companies, the aforementioned theories are significant in answering research questions. Dividend-agency theoretical framework provides an overview of the core theories along with assumption theories that underpinned the study. The identified theories are used to explain contradictory empirical findings from current and previous studies as highlighted in the body of this chapter. The main theories used various proxies to determine dividend-agency relationship of JSE listed financial' services companies. Furthermore, these theories provided a solid foundation for research questions, objectives and the methodological approach. The contradictory empirical findings helped with the identification of the study research gap for the current study. This framework provides the context within which the findings from the industry are critiqued and recommendations are preferred. Furthermore, the framework helps to focus the current study in achieving its research objectives. In line with these theories' assertions, the expected dividend-agency relationship signs were developed for the regression equation, therefore, explaining expected dividend-agency relationship.

Dividend-agency theoretical framework establishes a link between dividend policy and the Agency Theory in relation to the reduction of agency conflicts. Dividend-agency theoretical framework anchors relationship between companies' performance in relation to dividend policy and the agency problems of companies listed on the JSE. In addition, dividend-agency theoretical framework provides theoretical foundation to substantiate research findings for the current study.

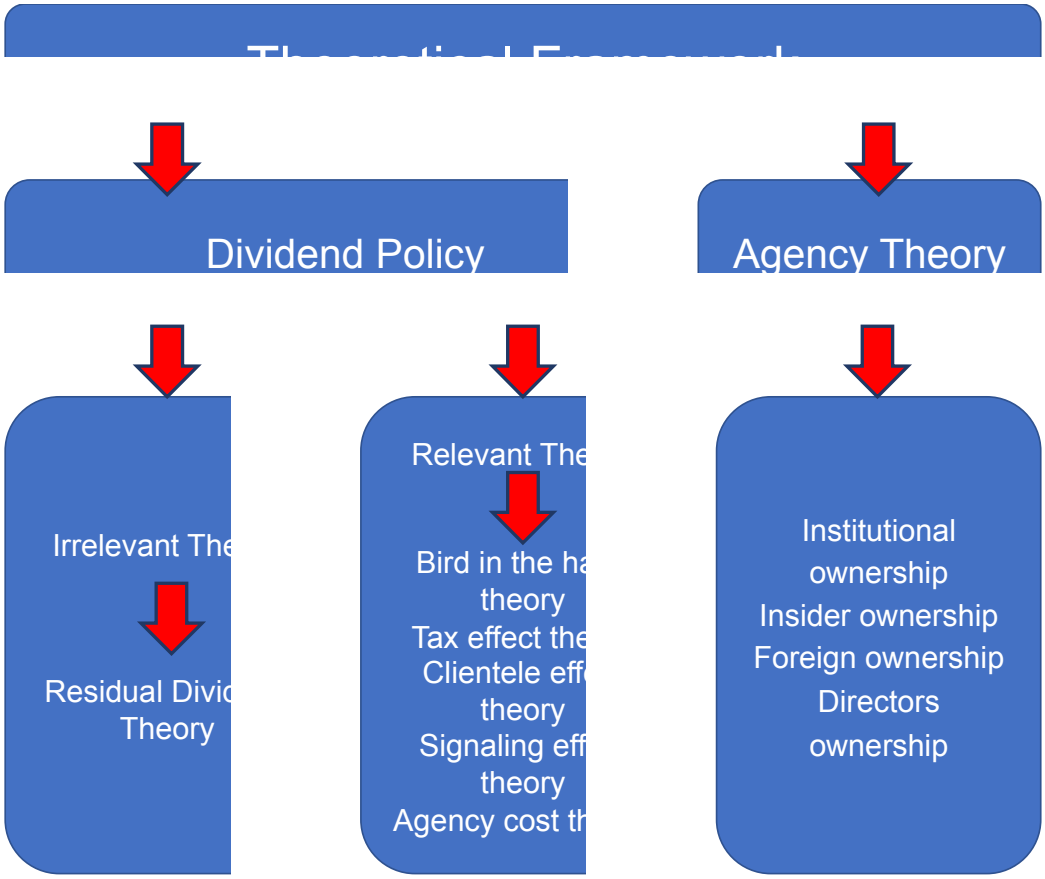


Figure 2.1: Dividend-agency theoretical framework in summary

Source: Researcher's own compilation, 2018.

Theoretical framework as outlined in figure 2.1 demonstrates theories, order and sequence of theoretical subtopics that underpinned dividend-agency relationship. Cooper and Schindler (2014:36) are of the opinion that the main role of theory is to help guide the research in accordance with research problem and accompanying research questions. Therefore, this chapter investigates empirical evidence and current theoretical thinking on the relationship between dividend policy and agency problems. The review examined the main dividend theories: dividend irrelevance and residual Modigliani and Miller (1961), Dividend Relevance Theory (Lintner, 1956) on the other in association with the Agency Theory by Berle and Means (1932), and Jensen and Meckling (1976). Furthermore, the assumption theories of relevant dividend policy, namely Clientele Effect Theory, Signalling Theory, and Bird in the Hand Theory that are put forward to justify the relevance of dividend payout ratio shall be examined. Subsequently, agency sub-theories of ownership structure such as institutional ownership and agency cost by Jensen and Meckling (1976) are also

discussed herein. The aforementioned theories are to provide guidance to the current study in accordance with its research objectives and research questions. Nevertheless, it is not the focus of the study to contrast the different schools of thought within the dividend policy and justify the relevance or irrelevance of dividends, but rather to investigate the relationship between dividend policy and agency problems, in relation to resolving agency conflicts of financial services companies listed on the JSE.

This chapter investigates empirical evidence and current theoretical thinking on the determination of relationship between dividend policy and agency problems. To investigate the current theoretical thinking on dividend-agency relationship meant that this chapter is anchored on the assumption theories of relevant dividend policy, namely Clientele Effect Theory, Signalling Theory, and Bird in the Hand Theory which are put forward to justify the relevance of dividend payout ratio. The aforementioned theories are the focus of the study. Furthermore, agency sub-theories such as ownership structure, board ownership, foreign, insider ownership, and institutional ownership are also discussed as substitutes to dividend payments (Jensen & Meckling, 1976).

2.3 A REVIEW OF THE LITERATURE ON DIVIDEND-AGENCY RELATIONSHIP

To investigate the current theoretical thinking on dividend-agency relationship meant that this chapter is anchored on the assumption theories of relevant dividend policy as mentioned above. These theories are examined together with the Agency Theory ownership structure mechanisms, namely, institutional ownership, insider ownership, outcome model, and the Substitution Model. These theories seek to justify the relevance of paying dividends. This review shall examine the main dividend theories: dividend irrelevance and residual and Dividend Relevance Theory in association with the Agency Theory. However, it is not the focus of the study to contrast the different schools of thought within the dividend policy and justify the relevance or irrelevance of dividends, rather to investigate the relationship between dividend policy and agency problems, by unearthing previous and current empirical evidence that relates to the reduction of agency conflicts.

The primary goal of a manager whose wealth interests is well aligned to that of the company owners should be to maximise the wealth of a company' owners, which translates into maximising company value (Gitman et al., 2014). Henceforth, one of the secondary objectives of the study is to determine the extent to which the dividend-agency relationship reconciles to achieve the goal of maximising shareholder wealth. The general view among the finance scholars is that the Agency Theory was borne out of corporate governance, and the researcher concluded to say that dividend policy emerged from investment practice (Smit, 2015). This study deals with components of corporate governance, namely, dividend payments and agency problems. Corporate governance refers to the application of the rules, processes and companies' laws in which companies are managed, controlled and regulated (Larcker & Tayan, 2011). A company's corporate governance is influenced by both internal factors, such as insider ownership, board of directors, as well as external forces, such as institutional ownership and government regulations (Gitman et al., 2014).

According to Larcker and Tayan (2011), corporate governance refers to the collection of control mechanisms (board of directors, and executive officers) that an organisation adopts to dissuade or minimise potentially self-interested managers from engaging in activities detrimental to the wealth maximisation of shareholders. The success of the control mechanism leads to reduction of the agency costs and translates to increase in the company value as advanced by the Agency Theory. It is one of the secondary objectives of this study to determine the extent to which this assertion is achieved in financial services companies listed on the JSE.

2.4 CORPORATE DIVIDEND RELEVANT THEORY

Corporate practices demonstrate that despite the robust empirical evidence on the irrelevance of dividends, however, corporations follow carefully designed payout strategies (Lintner, 1956:98). This evidence by companies leads to the following questions, which forms the core of the dividend puzzle: what could be the theoretical assumptions for companies to pay dividends? Out of this questioning (popularly known as dividend puzzle), corporate finance was shaped into its modern current form. Financial economists through empirical evidence advanced various reasons why

companies consistently pay dividends. Among others were the following: Signalling Theory, tax preference theory, Clientele Effect Theory, and agency cost theory.

Dividend puzzle has marshalled dividend policy to be at war with itself through its opposing schools of thought, that is, dividend irrelevance and residual theory championed by Modigliani and Miller (1958; 1961). This research evolved through probing questions, which dictated the course of research to its current form. As such, dividend irrelevance versus dividend relevance under the guard of Graham and Dodd (1951), as well as Lintner (1956); Gordon (1959), who then developed assumption theories (Bird in the hand, Clientele Effect Theory, Signalling Theory to mention just a few) to respond to the dividend puzzle and justify the relevancy of dividends.

This study brings forth a point of departure from internal divergence of views from within dividends policy, by investigating a relationship between dividend policy and agency problems of financial services companies listed on the JSE with an objective to determine the extent to which dividend-agency relationship reconcile to achieve the goal of maximising shareholder wealth. Empirical evidence found that the dividend yield had little impact on stock price volatility. Therefore, managers cannot employ dividend policy to reduce the stock's risk (Sarwar, 2013). Furthermore, stock price volatility was negatively related with dividend payout and dividend yield (Hashemijoo, Ardekani & Younesi, 2012). In line with this empirical evidence, studies by Joshi (2012) and Sarwar (2013) concur with the above evidence.

However, numerous researchers have used dividend per share (DPS), earning per share (EPS) and retained earnings per share (REPS) as proxies for examining the impact of dividend policy (Azhagaiah & Priya, 2008; Bawa & Kaur, 2013; Sarwar, 2013). The following empirical studies have observed that an increase in dividend leads to an increase in share price while a decrease in dividend leads to a decrease in share price (Azhagaiah & Priya, 2008; de Wet & Mpinda, 2013). Overwhelmingly, evidence pointed out that financial performance has significant positive relationship with dividend payout (Uwuigbe, Jafaru & Ajayi, 2012).

These findings confirmed the assertion advanced by dividend policy that the payment of dividends leads to increase in share price; henceforth, the maximisation of shareholder wealth. Furthermore, empirical evidence from de Wet and Mpinda (2013)

confirmed that the payment of dividend positively affects the market price per share (MPS) for JSE listed companies. Similarly, Azhagaiah and Priya (2008) also report that higher dividend increases the market value of the share and vice versa. All these findings fully concur with dividend payout policy assumptions and also address the secondary objective of the study, to determine the extent to which dividend-agency relationship reconciles to achieve the goal of maximising shareholder wealth. In a South African context, to measure company performance based on DPS, EPS, REPS, as advanced by the aforementioned studies will not be enough. If we were to consider corporate governance definition as a guide, then we should include government regulation policies on companies. As such, companies in South Africa should include Black Economic Empowerment (BEE) as part of the variables to measure performance. It could be measured by determining the total percentage owned by company employees. Therefore, the failure to comply with such statutory requirements has a potential to negatively affect share price and brings about instability. Corporate Dividend Relevant Theory has put forward assumption theories to justify its relevance. The critical empirical findings of these assumption theories are discussed below.

2.4.1 Taxes and Clientele Effect Theory

Pettit (1977:419) studied the clientele effect of dividends and noted that the retired investors and pension funds, for example, tend to prefer cash income, and may therefore want the firm to pay out a high percentage of its earnings. On the other hand, shareholders in their peak earning years prefer the reinvestment of cash and low dividend payments. Similarly, educational institutions and charity companies prefer stable dividends because they will not be able to carry on their current operations (Baker et al., 2002). Such investors would therefore prefer companies that pay a regular dividend yearly. Consequently, shareholders will tend to be attracted to companies that satisfy their needs with regard to the balance between cash income and capital growth, this is known as Clientele effect theory.

For example, the decision by Microsoft to start paying dividends was seen as a signal that the company was running out of significant future investment opportunities. This dividend decision by Microsoft demonstrates the application of residual dividend. It is common for companies in a growth phase, not to payout any cash dividends, if they adopted residual theory. As such, shareholders will tend to be attracted to companies

that satisfy their needs with regard to the balance between cash income and capital growth (Correia, Flynn, Uliana, Wormald & Dillon, 2015).

2.4.2 Signalling Theory / Asymmetric Information

Empirical evidence from industry from companies such as Apple and Google only started to pay dividends in the early 2010s (Cciccia, 2012). This signalled that the capital expenditure of these companies was declining, in line with the assertions advanced by irrelevant theory (MM, 1958, 1961). Furthermore, empirical evidence found that there is a positive relationship between dividend yield and stock prices volatility and there is a negative relationship between share price volatility and growth of the company (Asghar, Ali, Hamid & Suleman, 2011). Despite these findings, dividend yield had little impact on stock price volatility. Therefore, managers cannot employ dividend policy to reduce the stock's risk. In addition, stock price volatility was negatively related with dividend payout and dividend yield (Hashemijoo, Ardekani & Younesi, 2012). Moreover, financial performance has significant positive relationship with dividend payout (Uwuigbe, Jafaru & Ajayi, 2012).

The Signalling Theory further suggests that dividends are used to signal management's private information regarding the future earnings of the company (Bhattacharya, 1979). Corporate dividend payout is not only the source of cash flow to the shareholders but it also signalled company's current and future performance prospects (Afza & Mirza, 2010). Corporate governance mechanism of institutional investors, in particular, may have greater access to company information and are better positioned to influence management (Haye, 2014). Therefore, institutional investors substitute asymmetry information. Owing to this information advantage enjoyed by institutional owners reduces opportunities for outside companies to repurchase stock at bargain prices (De Cesari, Espenlaub, Khurshed & Simkovic, 2012). Furthermore, Desai and Jin (2011) provided evidence that management alters dividend policy to cater to institutional shareholders. In practice, companies are forbidden to use their proximity to information for the purposes of insider trading and the manipulation of data by management to favour institutional shareholders. Owing to this malpractice by the industry, the role of institutional investors as advanced by the Agency Theory is distorted.

According to Healy and Palepu (1988), investors interpret announcements of dividend initiations and omissions as manager's forecast of future earnings changes. Owing to inaccurate financial statements, investors decided to rely on dividend announcements as a signal for future prospects of the company performance. The Health and Racquet, Enron and WorldCom scandals are some of the few examples in manipulating accounting based measures (Bussin, 2015). Therefore, it is a critical element of King IV Report (2016) requirement that CEO remuneration be linked to measures of company performance (Bussin & Satram, 2012). However, empirical evidence stipulates that stock market reactions to dividend-change announcements are not due to a signalling role of dividends but rather to a reduction in agency costs within a dividend-paying company (Easterbrook, 1984). For instance, dividends can mitigate agency costs by forcing companies to seek funds from capital markets in which managers are subject to additional monitoring at lower cost. It is dividend assumption theory's assertion that dividend-agency relationship reduces agency costs.

Against this backdrop, the current study sought to determine the extent to which dividend-agency relationship of financial services companies listed on the JSE reduces agency costs. This is in light of the co-existence of agency problems along with dividends on the JSE listed companies that continuously pay dividends (Piketty, 2014).

Basiddig and Hussainey (2010) found that there is negative significant relationship between information asymmetry and the shares profit policy in Great Britain. These findings simply show that information asymmetry is not only considered for signalling role, but also as an important factor that defines the shares profit payment policy of companies in this regard in Great Britain companies. Divergent research still persists with regard to asymmetry information. This was confirmed through a study by Al-Najjar and Hussainey (2010) who found that there is a negative and significant relation between shares profit and dividend payment policy. However, research showed that dividend payment is positively related with leverage, performance, corporate governance, and last year dividend while it is negatively related with companies' liquidity (Dada, Malomo & Ojediran, 2015). In light of the contradictory research, the payment of dividends as signaling information as advanced by the the Agency Theory

remains unresolved. Therefore, the question persists, why do companies pay dividends?

2.4.3 Bird in the Hand Theory

Bird in the hand theory asserts that paying higher dividends increases company value because dividends represent certainty while future share price appreciation is uncertain. An empirical evidence by Al-Makawi, Rafferty and Pillai (2010:176) supports this assertion that a higher current dividend reduces uncertainty about future cash flows and that a high payout ratio will reduce the cost of capital, and hence increase company value. In support of this argument, Al-Malkawi et al. (2010) found that bank of North America in 1781 paid dividends after only six months of operation, and the Bank Charter entitled the board of directors to distribute dividends regularly out of profits. Notably, dividends payments are to be paid out of cash flows not profits; profits are estimates and uncertain.

However, Modigliani and Miller (1961) dismiss the above assertion upon which the bird assumption theory is founded by referring to it as the bird in the hand fallacy. Furthermore, Bhattacharya (1979) correctly argues that the riskiness of a project's cash flows determines a companies' risk and an increase in dividend payout today will simply result in an equivalent drop in the stock's ex-dividend price. Therefore, increasing the dividend today will not increase a companies' value by reducing the riskiness of future cash flows. Amidu and Abor (2006), Afza and Mirza (2010) and Thanatawee (2013) found that there exists a positive relationship between cash flow and dividend payout ratio. However, Ahmed and Javid (2008) found negative relationship between liquid and payout ratio suggesting that increase in payout ratio reduces company's liquidity level, therefore lowering dividend payments. On the contrary, Adedeji (1998) did not find any relationship between liquidity and dividend policy. Investors consider corporate dividend payout as not only the source of cash flow to the shareholders but it also provides information regarding company's current and future performance (Afza & Mirza, 2010). The corporate practice of continuous payment of dividends despite poor performance could be largely attributed to the Bird in the hand assumption theory, in that investors and executive management consider dividend as a certainty as oppose to future share price that could go either way. In this

regard, one could conclude that the wealth interests of management and shareholders' is not aligned, through this theory owing to persistent agency problems.

2.5 PILLAR 3 DISCLOSURE

A key goal of the revised Pillar 3 disclosures is to improve comparability and consistency of disclosures (Basel Committee, 2015). The guiding principles aim to provide a company foundation for achieving transparent, high-quality pillar 3 risk disclosures that will enable users to better understand and compare a bank's business and its risks. Pillar 3 disclosures reduce information asymmetry and helps promote comparability of banks' risk profile within and across jurisdiction (Basel Committee, 2015). At the core of the asymmetry information is a strong perception held by investors that management manipulate data, hence unreliable data. It is not clear how the improvement of comparability and consistency of disclosure would resolve data unreliability, hence reliance on dividend as a signalling factor. A listed company for example is subjected to transparent requirements, which are critical in achieving the same disclosure requirement of pillar 3.

2.6 CORPORATE DIVIDEND IRRELEVANCE THEORY

In their seminal paper, Modigliani and Miller (1961:414) provide an elegant analysis of the relationship among dividend policy, growth, and the valuation of shares. In their idealised world scenario, (MM, 1961) set forth an Irrelevance Theory based on no taxation; transaction and agency costs. Moreover, Irrelevance Theory is underpinned by the assertion that when cash surplus exists and no investment opportunities are available for the company, then management is expected to pay out some or all of those surplus earnings in the form of cash dividends (Ajanthan, 2013). Furthermore, MTN invested substantially in Africa particularly in Nigeria and other parts of the continent without paying dividends to shareholders. However, when MTN's growth and investment opportunities were winding down, therefore reducing capital expenditure then dividends were declared from retained earnings (Correia et al., 2015). Essentially, the aforementioned example captures the essence of the dividend irrelevance and dividend residual theory in corporate practice. In other words the (MM, 1961) school of thought is not totally opposed to the payment of dividends, rather dividends should be approached as long term and investment strategy.

Modigliani and Miller (1961) have their critic in Bernstein (1996:176) who argues that the MM theory was admittedly a hypothetical scenario from its genesis, and no one including MM, would claim that the real world looks as such. Although examining dividend policy in perfect capital markets could provide useful insights about the conditions under which dividends may affect stock prices, the dividend Irrelevance Theory can also be misleading. Bernstein (1996:180) argues that the final test of any theory is how accurately it portrays the real world, weaknesses and all not on a theoretical abstract world. This study was not focused on the justification of irrelevance dividend policy versus the relevant dividend policy. However, this study investigated the relationship between dividend policy and agency problems of financial services companies listed on the JSE.

2.7 RESIDUAL DIVIDEND THEORY

The concept of a residual dividend policy has deep roots in financial literature and underlies critical theoretical work. Among the recommendations of the Agency Theory is a residual dividend policy specifying that managers should pay shareholders the free cash flows remaining after funding all profitable investments (Baker, 2009). However, managers generally maintain a smoothed dividend sequence that is as strongly related to past dividends as it is to current earnings. This is owing to a survey by Brav et al. (2005) that revealed that managers view dividend signals as containing more credible and reliable information.

On 28 April 2013, Business Times published an article indicating that some organisations have not shown restraint, as they continuously pay large salary increases despite poor company performance (Bussin, 2015:24). This is among other factors owing to CEOs who are able to influence boards and compensation committees and therefore influence the structure of their remuneration packages (Doscher & Friedl, 2011). Local research conducted into the factors driving changes in remuneration policies in South Africa showed that financial results of the company, governance and merit pay are key factors that are receiving closer attention; reflecting a greater shareholder expectation that pay should be linked to performance (Bussin & Huysamen, 2003; Bussin & Satram, 2012). However, Aduda and Kimathi (2011) found a statistically negative non-significant relationship between executive compensation

and performance of commercial banks in Kenya. Furthermore, Fernandez (2005) found out that company performance is not significantly related to executive compensation. In a study by Osegbue, Ifurueze and Ifurueze (2014) of Nigerian listed banks for the period 1990 - 2010 found that there is no significant relationship between dividend payout of the banks and all the explanatory variables (free cash flow, current profitability, financial leverage, business risk, and tax paid used in the study).

However, Gill, Biger and Tibrewala (2010) analysed the American service and manufacturing companies and found that the dividend payout ratio is a function of profit margin, sales growth, debt-to-equity ratio and tax. For the services industry, the results indicated that dividend payout ratio is a function of profit margin, sales growth, and debt-to-equity ratio. Results for manufacturing companies indicated that dividend payout ratio is a function of profit margin, tax and market-to-book ratio.

The following empirical evidence demonstrates a recent phenomenon in which certain CEOs willingly relinquish their bonuses when their companies perform poorly. In 2012, Investec's CEO had his compensation cut by 87% while also asking not to be considered for a bonus (Bloomberg, 2012). In the 2012 financial year, ABSA's CEO deferred her R14 million incentive bonuses. ABSA's CEO would receive the bonus in shares in three equal portions in the next three years (Business Day, 2012). BHP Billiton's CEO was appointed in 2013 and offered a base salary that was 20% less than his predecessor's (Moneyweb, 2013). In their study, Core, Guary and Verrechia (2003) report that equity incentives are an efficient means to reduce cash outflow. This practice from the industry by certain CEOs mentioned in this paragraph is a good application of arguments advanced by the residual dividend theory. However, in this case, this practice by the industry is not sustainable in that these CEOs voluntarily relinquished their equity incentives instant of applying finance principles of residual dividend theory as the basis of their decision. Therefore, it is the relationship between dividend payments and agency problems becomes detrimental to the shareholders when executive management continuously pay dividends despite poor performance of the company. Furthermore, the practice by the industry to pay excessive compensation packages despite poor performance leads to poor economic growth and less job creation.

2.8 AGENCY THEORY

The recognition of potential agency costs associated with the separation of management and ownership is not new, differences in managerial and shareholder priorities have been recognised for centuries. Smith (1937) adjudges the management of early joint stock companies to be less prudent in their dividend decision-making activities. In addition, Berle and Means (1932); Fama and Jensen (1983); Jensen and Meckling (1976) in their seminal work have observed the challenge of agency problems that ultimately leads to principal-agency cost. The Agency Theory suggests that where there is a separation of ownership and control of a company, the potential for agency costs arises because of conflicts of interest between contracting parties (Hassain, Tan & Adams, 1994; Haniffa & Cooke, 2002; Chau & Gray, 2002). Accordingly, such conflicts will lead to agency problems and incur significant agency costs. To control the challenges imposed by the separation of ownership and control of companies, the Agency Theory proposes forms of ownership/ ownership structure as mechanisms to mitigate agency problems. Ownership structure is defined as a mechanism that aligns the interest of shareholders and managers (Eng & Mak, 2003). Accordingly, there are several types of ownership such as management and/or board ownership, government, family, foreign, insider ownership, and institutional ownership. These forms of ownership will be subsequently briefly discussed as sub-theories that support the Agency Theory.

Jensen and Meckling (1976) introduced the Agency Theory into corporate governance. They argue that it is based on economic theory and it describes a principal-agent relationship between owners (such as stockholders) and executives, with top executives acting as agents whose personal interests do not naturally align with shareholder interests. Agency theory assumes that the principal-agent relationship involves a transfer of trust and duty to the agent while assuming that the agent is opportunistic and will pursue interests, including unethical conduct , which breeds agency conflics. This potential conflict of interests is often referred to as “the agency problems” (Davis et al., 1997). According to Vo and Nguyen (2014), managers who do not have a significant ownership in the company may have incentives to make decisions which are not at the best interest of shareholders. However, empirical evidence by Davis, Shoorman, and Donaldson (1997) indicate that corporate

executives are extremely complex in dividend decision making meanwhile the agency problems persists.

Although the Agency Theory provided a point of departure from MM's dividend policy and put forward alternative forms of ownership, the agency problems are not yet over. Notably, an attempt to align managerial interests to that of the owners led to a persistent problem of agency costs, similar to the dividend policy with its persistent dividend puzzle. Despite challenges brought about by the separation of management and ownership corporations' continued survival, and consistent payment of dividends and creating employment demonstrate a level of success for both dividend policy and the Agency Theory. However, one could argue that success came at the detriment of the shareholders. The two theories, that is, the Agency Theory and dividend policy, would be examined simultaneously to investigate their relationship in practice through studying financial services companies listed on the JSE. This study investigated the relationship between dividend policy and agency problems of companies listed on the JSE. The empirical findings of agency assumption theories are discussed below.

2.8.1 Institutional Ownership

Institutional investors play an effective role at monitoring and disciplining management than the individual investors. This is possible owing to their investment size and the resources at their disposal. In the case of a South African context, state-owned enterprises (SOEs) such as South African Broadcasting Corporation (SABC), South African Airways (SAA), Passenger Rail Agency of South Africa (PRASA), and Eskom are poorly managed therefore often dependent on government bailout packages (Sunday Times, 2017). If these SOEs were to be listed like TELKOM SA, or employ debt funding, this will consequently improve their corporate governance through the market monitoring mechanism (Jensen & Meckling, 1976). This provides institutional regulatory oversight and strengthens governance (Sunday Times, 2017). Institutional investors have got a clout to discipline management and even bring change when management performs inadequately (Stouraitis & Wu 2004).

However, Brown, Beekes and Verhoeven (2011) aver that a minority shareholder do not have the clout to discipline management. On the contrary, Shleifer and Vishny (1997:738) contend that companies with large shareholders in controlling positions

may divert resources from smaller, non-controlling shareholders by paying minimal dividends, maintaining higher asset balances. Therefore, using those assets for a variety of reasons, such as private perquisite consumption, selling assets to themselves or other controlling interests at favourable prices, and other activities detrimental to non-controlling shareholders. In this case, large shareholders exacerbate the agency costs of equity to the detriment of smaller, non-controlling shareholders.

Owing to these agency costs, managers may not always implement a dividend policy that maximises shareholder benefits but rather they may choose a dividend policy that maximises their own personal benefits (Jiraporn, Kim & Kim, 2011). Therefore, large shareholders prefer to extract private benefits in lieu of dividends, while minority shareholders prefer dividends as protection against wealth expropriation by large, controlling shareholders and management. Corporate governance (in Europe) systems are characterised by large shareholders; such majority control gives the largest shareholder considerable authority and discretion over key decisions, like dividend decisions (Gugler & Yurtoglu, 2003:749).

A case of emerging markets particularly in Africa, in sub-Saharan region, where South Africa (SA) is located, companies are mostly held by institutional block holders and the corporate platform is characterised by weak and sometimes fragmented regulatory systems as well as low levels of investor protection (Abor & Fiador, 2013). Nganga, Jain and Artvor (2003) argue that investor protection in Africa is comparable to other developing countries but like all emerging markets, the inefficiency in the legal system makes enforcement of the law slow and patchy. According to Abor and Fiador (2013) in Nigeria, shareholders' rights are not that well observed. However, compliance to the regulation that stipulates equal access to information by all shareholders is also quite inconsistent. The World Bank (2005) reports that shareholder rights in Ghana are generally observed, but enforcement, especially on material facts disclosure, monitoring for content, related party transactions and ownership disclosure, is lacking. In line with Abor and Fiador's (2013) findings, Steyn and Stainbank (2013) revealed that majority of companies in South Africa are controlled by dominant shareholder. This trend is similar to the developments in Europe which confirms that corporate

governance of developing countries is comparable to that one of developed countries therefore, underscoring business globalisation.

Although emerging markets turn to model their corporate governance similar to that of developed economies, markets conditions in developing economies prove to be different from their counterpart in developed economies. For instance, in this case, the empirical findings are consistent in the case of Africa painting rather poor state of affairs with regard to law enforcement by directors to protect minority shareholders and regulatory regime. Survey results by LaPorta, De Silanez, Sheifer, and Vishny (2000) looked at the agency problems and dividends policies around the globe. Using a sample of companies from 33 countries around the world, the study found that companies operating in countries with better protection of minority shareholders pay higher dividends.

Mirzaei's (2012) study aimed to find out the relationship between the ownership structure and dividend policy. He found that there is a significant negative relationship between institutional ownership and dividend policy. However, the researcher could not obtain a significant relationship between managerial ownership and dividend payment. Mirzaei (2012) also concludes that there is a positive and meaningful relationship between the variable of ownership concentration and dividend policy. Warrad et al. (2012) examine the potential relationship between the ownership structure and the dividend policy for a sample of Jordanian industrial companies traded at the Amman Stock Exchange over the period of 2005 and 2007. This research found that there is no significant relationship between the dividend policy and private ownership, government ownership, family ownership as advanced by the the Agency Theory. However, the results also indicated that there is a significant positive relationship between foreign ownership and dividend policy.

Ullah, Fida and Khan (2012) conducted a study on the major factors that have an impact on the corporate dividend policy within the context of agency relationship by utilising several ownership structure variables such as institutional ownership, managerial ownership and foreign ownership. They found that managerial ownership has negative impact on the corporate dividend policy. However, institutional ownership and foreign ownership both had a positive impact on the dividend payments contrary to the dictates of the Agency Theory. The empirical evidence paints conflicting results

on the role of dividend policy as an instrument of corporate governance that could be used to realign the interests of managers and owners while reducing agency costs. Empirical evidence with regard to local environment affirms the need to conduct this proposed study owing to different environments of developed and developing markets. In support of research in emerging markets, Afshan, Chhetri and Pradhan (2011:89) cautioned that care must be taken not to generalise the findings of ownership and other governance related studies performed in developed countries to developing countries. Therefore, highlighting the need for research in developing countries in this regard South Africa. This means that whatever outcomes from developed markets cannot be generically applied to emerging markets owing to different market conditions, hence the motive for the study.

2.8.2 Insider Ownership

A large body of agency literature indicates that insider ownership helps aligning managerial wealth interests with the wealth interest of the external shareholders (Jensen, 1986). In line with this assertion, Jensen and Meckling (1976) Rozeff (1982), Easterbrook (1984) and Stulz (1990) assert that debt holders and related monitoring tools are also considered important mechanisms for controlling managerial behavior and mitigating agency problems. Duc and Nguyen (2014) underscore that managers who do not have a significant ownership in the company may succumb to undue influence and make decisions which are not at the best interest of shareholders.

However, greater insider ownership may serve as a substitute control mechanism for the dividend payments. Executives who own equity shares have wealth interests more closely aligned with shareholders compared with executives who do not. Consequently, shareholders of these companies should face lower monitoring and bonding costs (Haye, 2014). A case of emerging markets agrees with the above assertions. Vo and Phan (2013) contend that the increase in managerial ownership will improve the performance of companies in Vietnam. Thanatawee (2013) found that higher institutional ownership increases both likelihood and magnitude of dividend payouts based on a sample of Thai companies. Moreover, Thanatawee (2013) conducted a study in which he found that the likelihood of a dividend payout is positively associated with ownership concentration and the percentage of stock held by the largest shareholder, particularly if the largest shareholder is an institution.

These findings contradict the Agency Theory assumption that an increased concentration substitutes dividend payments; hence a negative relationship. However, managerial ownership has its own unintended negative consequences. If managers hold a significant portion (above 5%) of a company's equity, an increase in ownership may prevent them from being replaced or punished for their improper decisions and this may result in managerial entrenchment. Once entrenched, managers are likely to consume more perquisites or to reduce the company's investment opportunities to protect their own interests (Morck, Shleifer & Vishny, 1988). In other words, increasing managerial stake through equity has a potential to make managers risk averse, which means that they may fail to take advantage of investment opportunities. Empirical evidence in support of this assertion found that managers with a substantial portion of their wealth in equities invested in the company, and this lack of diversification encourages them to be more risk averse in project selection, an outcome not favourable to shareholders (Easterbrook, 1984).

Corporate finance literature revealed that Rozeff (1982), Eckbo and Verma (1994), Moh'd Perry and Rimbey (1995), Dickens, Case and Newman (2002) and Akhigbe and Whyte (2012) conducted empirical studies to uncover evidence of a statistically significant negative relationship between insider ownership and dividend payout. Wen and Jia (2010) also found that dividends are negatively related to institutional shareholders. Harada and Nguyen (2011) found a significant negative relationship between ownership concentration and dividend payout for Japanese companies.

Furthermore, Al-Gharaibeh, Al-Zurigat and Al-Harasheh (2013) are other researchers, who try to investigate the impact of ownership structure on dividend policy. They used Full Adjustment Model and Partial Adjustment Model to analyse the potential relationship between ownership structures and dividend policy. They found that managerial ownership has a negative influence on the dividend policy in the Partial Adjustment Model and therefore, as managerial ownership increases dividend payments fell. These researchers argue that this was mainly owing to the reason that managers have inclination to use free cash flow for their own personal benefits, an arguement advanced by dividend policy. However, Full Adjustment Model pointed out that there is a positive relationship between managerial ownership and dividend policy. According to Al-Gharaibeh et al. (2013), this relationship is a clear indication that

Jordanian companies do not prefer to utilise dividends as a mechanism to reduce agency problems between company managers and shareholders. Quite notably, these findings further bring controversy on the role of dividend policy and ownership structure as a means of ensuring good corporate governance as advanced by the Agency Theory.

However, greater insider ownership (interest in the company which exceeds 5%) of the group's total number of shares in issue, King IV Report (2016) may compromise the independency of managers and encourages them to be risk averse as they protect their own interests. Sharma (2011) found a positive relationship between board independence and total payout, but a statistically weaker relationship with cash dividend payouts. In addition, Hu and Kumar (2004) found a positive and statistically significant relationship between greater board independence and the propensity to pay dividends. Furthermore, Jiraporn and Ning (2006) found that independent board representation has a positive and statistically significant relationship with dividend yield, but negative and insignificant with dividends to earnings. Whether more independent boards produce higher or lower dividends depends upon whether the outcome model (dividends will increase) or the the Substitution Model (dividends will decrease) prevails (Haye, 2014). According to King IV Report (2016), principle 1.9: indicates that the board and its directors should manage conflicts of interests and board members should be independent.

The report further defines an independent director as a non-executive director that does not have a direct or indirect interest in the company, which exceeds 5% of the group's total number of shares in issue. Although the issue of independence is often argued as a state of the mind, executive management' ownership of the stake of the company above 5% makes them to be conflicted and their independency compromised. The executives could view this as failure to exercise their fiduciary duty. Furthermore, they become risk averse and emotionally attached to the company, as opposed to the Agency Theory assumption that agents are emotional detached from the company. Fama and Jensen (1983) postulate that concentration of decision-making and decision control in CEO or in one individual reduces the board's effectiveness and objectivity in monitoring top management.

2.9 AGENCY COSTS

The modern approach of the Agency Theory seeks to explain corporate governance because of attempts to minimise costs associated with the separation of corporate ownership and control. Agency theory distinguishes between two types of agency costs, namely, the agency cost of equity arising from conflicts of interests between insiders and outsider equity holders, and the agency costs of debt arising between equity holders and debt holders (Jensen & Meckling 1976). If companies' payout dividends, they turn out to the stock market for financing their new investments. This creates transaction costs and debt holders; which corporate structure seeks to minimise through the Agency Theory. To resolve agency problems, the Agency Theory advances two agency models, namely, outcome model and the Substitution Model (Jensen, 1986). The two models are discussed below.

2.9.1 Outcome Model

According to the outcome model, governance provisions that enhance the legal protection of minority shareholders make it easier for those shareholders, perhaps through improved board representation, to prevent wealth expropriation by insiders (Haye, 2014). The outcome model further advocates that companies with good growth prospects tend to conserve more cash and make payouts only when necessary owing to strong legal protection.

This model has been extensively used in finance literature to understand corporate decisions, including dividend payout ratio (Jensen, 1986; Kim & Sorensen, 1986; Mello & Parsons, 1992; Leland, 1998; Ang, Cole & Lin, 2000). In addition, La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) conducted an empirical study in which they found that outcome model established a link between minority shareholders' protection, the agency cost of equity and dividend payouts. In this context of minority shareholders, dividend is an outcome of effective systems of legal protection of shareholders. A detailed empirical evidence painting a gloomy picture of poor legal protection of minority shareholders in developing markets was captured under the institutional ownership above. The strength of this model lies in strong regulatory regime and legal protection of minority shareholders, therefore necessitate the need for the current study under the environment already explained.

2.9.2 Substitution Model

Agency theory argues that the presence of large-block shareholders substitutes the need to pay dividends. Given information asymmetries, the presence of large-block shareholders may also be viewed as a substitute signal to the dividend that the company has favorable investment prospects and this is an assertion of the the Agency Theory (Zeckhauser & Pound, 1990). Furthermore, Chung and Zhang (2011) found that institutional investors gravitate to companies with pre-existing good corporate governance to minimise monitoring costs, but at the detriment of minority shareholders. This assertion is further substantiated that cooperating with management to exploit other shareholders is likely when the institution has a business relationship (e.g. an investment banking relationship) with the company (Cornett, Marcus, Saunders & Tehranian, 2007). The Substitution model in this regard argues that minority shareholders should be protected through the rule of law. Henceforth, the rule of law substitutes the use of dividend payments as a mechanism of good corporate governance. This becomes a cause for concern in developing countries as the regulatory systems and rule of law are rather weak (Abor & Fiador, 2013). The substitution hypothesis postulates that shareholder rights and dividend payout serve as alternate control mechanisms (Haye, 2014). This model further asserts that companies with better legal protection and improved shareholder rights are less reliant on dividends as a control mechanism for good corporate governance. Substitution model asserts that managers for companies with weak legal protection will pay more dividends in order to develop a reputation of not expropriating shareholder wealth.

Mehrani, Moradi and Eskandar (2011) found negative association between institutional ownership and dividend payout and a positive relationship between dividend payout and concentrated institutional ownership. However, no significant relationship between managerial ownership and dividend payout was found. Furthermore, Shah, Ullah and Hasnain (2011) found a significant positive relationship between ownership structure and dividend policy. In line with these findings, Warrad, Abed, Khriasat and Al-Sheikh (2012) found a positive and significant relationship between foreign ownership structure and dividend payout policy. In support of the Agency Theory, Fagerland and Nilsen (2012) found that an increased ownership

involvement leads to more aggressive dividend payout policies, and that, this positive relationship is as a result of high involvement, strong attachment and power.

Abdullah, Ahmad and Roslan (2012) found ownership concentration to be the only form of ownership that has a significant effect on dividend policy. Although the Agency Theory asserts that insider ownership helps aligning agents' wealth interests with that of the owners of the company, however, King IV Report (2016) cautioned against strong concentration that it might compromise the independence of the company' directors. Notably, Gharaibeh, Zurigat and Harahsheh (2013) found a negative relationship between managerial ownership and dividend policy. Furthermore, Al-Nawaiseh (2013) confirmed these results by establishing that insider ownership and family ownership have negative impact on the level of dividends paid whereas institutional ownership and foreign ownership are positively related to dividend policy.

An empirical evidence by Jiraporn et al. (2011) found that companies that have enhanced shareholder rights are more likely to pay dividends, and that those that do pay a dividend pay larger dividends. Using a sample of companies listed on the Toronto Stock Exchange, Adjaoud and Ben-Amir (2010) found that stronger shareholder rights lead to higher dividend payouts, also supporting the outcome hypothesis. To reduce agency costs of debts, creditors do require and managers should agree to pay low dividend to substitute for weaker creditor rights (Brockman & Unlu, 2009). In essence, the Substitution Model contends that if the company has weak regulatory regime and legal protection for investors, dividends should be used as a substitute.

In line with this assertion a study of companies from 23 countries, Aggarwal, Erel, Ferreira, and Matos (2011) found that higher institutional ownership increases the likelihood that poorly performing CEOs will be terminated and that company value will improve. Furthermore, it was also found that institutional investors help to control earnings management (Hadani, Goranova & Khan, 2011). Elston, Hofler and Lee (2011) investigated the relationship between institutional ownership and dividend payout behavior of companies in Germany. They did not find any significant relationship between institutional ownership and dividend payouts. However, they provided evidence that the rights of management to retain a significant percentage of net profits and lack of tax incentives reduce the agency costs associated with conflicts

between management and shareholder interests regarding the use of the company's free cash flow. These findings substantiated the Substitution Model's assumption theory that institutional investors could be used as a control mechanism for good corporate governance.

2.10 CHAPTER SUMMARY

In this chapter, theoretical framework, current and previous empirical studies set the context upon which research questions were to be answered. The core theories under review were Dividend Relevance Theory advocated by Lintner (1956) as well as dividend irrelevance and residual advocated by (MM, 1961). These theories were studied alongside the Agency Theory advocated by Jensen and Meckling (1976). Both theories were discussed based on their assumption theories. The dividend policy was discussed based on the following assumption theories: Clientele Effect Theory Taxes and Clientele Effect Theory; Signalling Theory / asymmetric information, and Bird in the Hand Theory. Similarly, the Agency Theory was discussed based on the following assumption theories: institutional ownership; insider ownership; agency cost; outcome model and the Substitution Model. This chapter provided divergent views through empirical studies. To reconcile the contradictory findings, this chapter discussed proposition put forward by the Agency Theory. The use of insider ownership, institutional ownership, outcome and the Substitution Models to mitigating agency problems was discussed. The forms of ownership as substitutes for dividend payout were fully discussed. The theoretical framework provided the bases upon which assumption theories were critically reviewed. Furthermore, this chapter discussed the alignment of management interests with that of shareholders, using the Agency Theory approach.

The next chapter outlines and discusses research methodology and research methods for the study in detailed. It further outlines research process and research instruments for the current study. In the main, the next chapter adopted panel data methodology and its econometric analytical models using EViews version 9 to perform statistical analysis. The next chapter was largely informed by this chapter to adopt methods and the methodology that are more robust to mitigate limitations experienced by similar

studies in this chapter. Several statistical tests were employed to ensure prescition and robust empirical findindings.

CHAPTER 3

METHODOLOGY: ECONOMETRIC MODELS AND RESEARCH DESIGN

3.1 INTRODUCTION

The previous chapter interrogated the key theories of Dividend Policy and the Agency Theory, together with empirical findings from previous studies. Furthermore, the chapter delt with corporate governance principles such as insider ownership, board of directors as internal factors, as well as external forces, such as institutional ownership and government regulations (Gitman et al., 2014). In addition, theoretical framework was unpacked through seminal papers by acomplished scholars such as MM (1958), Lintner (1956) and Gordon (1959). Similarly, on the Agency Theory Berle and Means (1932), Jensen and Meckling (1976) provided ground breaking theoretical foundation. To confirm or reject assertions advanced by these theories, panel data regression analysis was employed using EViews statistical version 9 for robust results. Notably, literature review exposed divergent findings therefore, necessitated the investigation of dividend-agency relationship of financial services companies listed on the JSE.

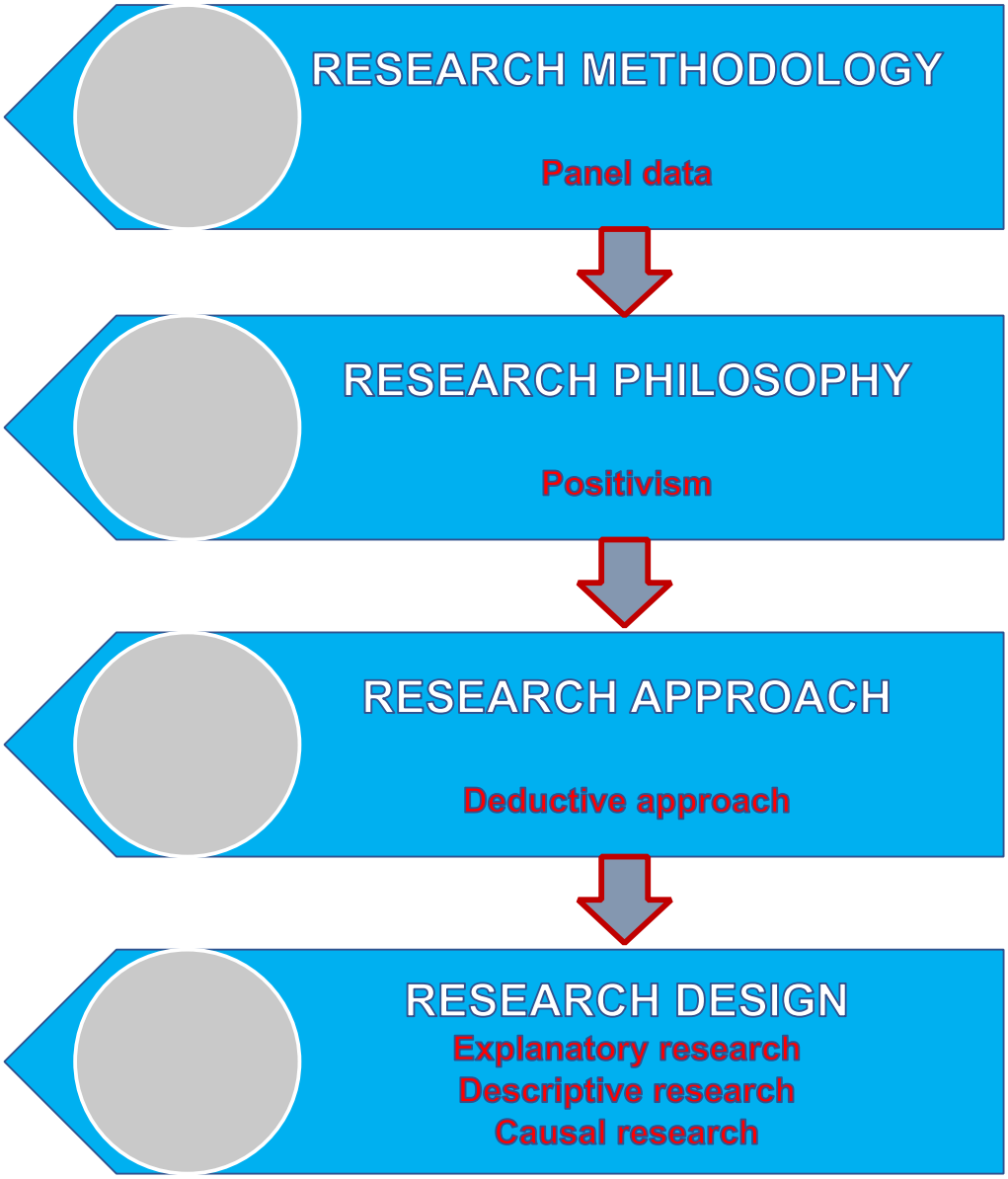
The similar previous studies from the previous chapter played a critical role in the choice of the methodology adopted in this chapter. Even though some previous studies adopted statistical package for social science (SPSS), however, owing to its limitations the current study employed panel data regression analysis using EViews version 9. The data colleted together with its challenges further informed various research methods employed when addressing the data analysis in this chapter. Essentially, the objective of this chapter is to provide research methodology that was used for gathering and analysing of the data to achieve the outlined research objectives.

In line with its panel data regression model, the study adopted econometric models in order to gain robust results. This chapter was organised as follows: Section 3.2 Summary of research methodological framework used. Section 3.3 panel data econometric analysis; this section discusses panel regression analyses. Section 3.4

Panel data analytical models, covered the constant coefficients model, random effect (RE) and fixed effect (FE) models. Section 3.5 discusses Generalised method of moments (GMM). Section 3.6 GMM estimation models, covered the dynamic panel data model, and maximum likelihood (ML) etimation model. Section 3.7 several tests of specification for panel data, covered hausman test, FE vs RE test, test for heteroscedasticity, test for multicollinearity, panel model with Goodness of Fit statistics, poolability test, testing for serial correlation and sargan-hausman test. Section 3.8 discussed research questions. This chapter further evolves to the last main section that deals with the study design, Section 3.9 discusses the study design. Section 3.10 covered research philosophy and approach. Section 3.12 discusses the study variables, covering dependent and explanatory variables. Section 3.13 discusses data collection. Section 3.14 discusses cleaning the data set and target population. Section 3.15 discusses data analysis technique. Section 3.16 discussed data analysis and findings. Section 3.17 concluded this chapter.

3.2 SUMMARY OF RESEARCH METHODOLOGICAL FRAMEWORK USED

The research methodological framework captured in Figure 3.1 is the summary of the methodological approach used to carry out the current study. To measure the relationship between dividend-agency relationship, the study adopted panel data regression analysis approach. Accordingly, to ensure that the study achieves its research objective, fixed cross-sectional effect model was adopted. This model provides statistically robust results, therefore removing the bias from the data and explains only within sample variations (de Wet & Mpinda, 2013). In order to answer the research questions on dividend-agency relationship, the study adopted descriptive research design. Similarly, previous studies by Huda and Abdullah (2014) also adopted descriptive research design in determining the relationship between variables. The research methodological framework summarises the entire methodology used for Chapter 3. Essentially, methodological framework provided methodological technique that guided the answering of the research questions and objectives, therefore, determine dividend-agency relationship for the current study.



Figur

Source

From the summary framework of Figure 3.1, it can be graphically demostrated that the research methodology contained critical research process that cotrols systematic bias and ensures robust results. Furthermore, to determine dividend-agency relationship of financial services companies listed on the JSE, the study employed positivism. Meanwhile, quantitative research combine both objective reality and deductive approach using data to test or confirm theoretical assumptions. This process enabled the current study to explore dividend-agency relationship with regard to financials' services sector listed on the JSE.

3.3 PANEL DATA ECONOMETRIC ANALYSIS

To robustly investigate the relationship between Dividend Policy (dependent variable) and agency problems (explanatory variable) of financial services companies listed on the JSE, the current study employed panel data owing to its advantages as mentioned below. According to Brooks (2014), panel data are more comprehensive than pure time series or pure cross-sectional data. Furthermore, the combination of cross-sectional and time series data increases the number of degrees of freedom, and subsequently the power of the test, through employing data on the dynamic behaviour of a large number of entities simultaneously. This arrangement of data has the ability to mitigate problems of multicollinearity that might arise if time series are modelled separately from each other (Brooks, 2014). Moreover, Wooldridge (2010) asserts that panel data and within estimation provided causal effects identification under weaker assumptions, therefore, time constant unobserved heterogeneity does not bias estimates.

Baltagi (2013), Andreß, Hans-Jürgen, Golsch and Schmidt (2013), and Cheng (2014) advanced the following assertions with regard to the strength of panel data. Panel data provided multifaceted approach to numerous challenges inclined to cross-sectional specification like unobserved heterogeneity, degrees of freedom, dynamics and collinearity among the explanatory variables.

Furthermore, panel data have an inbuilt mitigating factor to the challenges involved in interpreting the regression coefficients in the framework of a cross-section only or time series only regression, as demonstrated in the example below:

3.3.1 Regression Analysis

This cross-sectional multiple regression with two explanatory variables, X_1 and X_2:

$$Y_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + u_i;\ i = 1, 2, \ldots, N. \ldots. (1) \qquad \ldots (1)$$

Where X_1 is said to be the covariate with regard to X_2 and vice versa. Covariates act as controlling factors for the variable under consideration. In the presence of the control variables, the regression coefficients β_s are partial regression coefficients. Therefore, β_1 represents the marginal effect of X_1 on Y, keeping all other variables, here X_2, constant. The latter part, that is, keeping X_2 constant, means the marginal

effect of X_1 on Y is obtained after removing the linear effect of X_2 from both X_1 and Y. A similar explanation applies for β_2 as well. Hence, multiple regression leads to obtain the pure marginal effects by incorporating all the relevant covariates and thereby controlling for their heterogeneity.

This example further confirmed another advantage of panel data, that of controlling for individual or time heterogeneity, which the pure cross-section or pure time series data cannot afford. Consequently, the lack of control for heterogeneity runs a risk of getting biased results. Essentially, Baltagi (2013), Andreß et al. (2013) and Cheng (2014) echo that panel data, through multiple regression, facilitate for the heterogeneity of the covariates.

However, panel data have its own limitations owing to measurement errors that are as result of inappropriate information. This can be overcome through various tests such as panel conditioning and panel mortality. Furthermore, panel data experiences selectivity problems such as poor response, non-response and self-selectivity. This panel limitation was unnecessary as the current study relied on secondary data. In addition to these, panel data limitations were short time-series dimension. Usually, panel includes yearly data covering a short period of time for each individual (Baltagi, 2013). Despite the mentioned panel data limitations, the robustness of panel data mitigates its limitations. As such panel data were preferred for the current study in light of its robust characteristics.

3.3.2 The Panel Data Regression

This was a pooled data set, which formed a panel data with the following panel regression:

$$Y_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + u_i;\ i = 1, 2, \ldots, N;\ t = 1, 2, \ldots, T \quad \ldots (2)$$

In this instance, panel regression account for the cross-section and time heterogeneity in this model. This was achieved through a two-way error component assumption for the disturbances, $u_{it,}$ with

$u_{it} = \mu_i + \lambda_t + v_{it}$, … (3)

Where μ_i represents the unobservable individual (cross section) heterogeneity, λ_t denotes the unobservable time heterogeneity and v_{it} is the remaining random error term. The first two components (μ_i and λ_t) are also known as within component and the last v_{it}, panel or between components. This depends upon the assumptions about these error components, whether they are fixed or random. Therefore, the two types of models, namely, fixed effects and random effects. If we assume that the μ_i and λ_t are fixed parameters to be estimated and the random error term, v_{it}, is identically and independently distributed with zero mean and constant variance σv^2 (homoscedasticity), that is, $v_{it} \sim \text{IID}(0, \sigma v^2)$, then equation (3) gives a two-way fixed effects error component model or simply a fixed effects model. On the other hand, if we assume that the μi and λt are random just like the random error term, that is, μi, λt and v_{it} are all identically and independently distributed with zero mean and constant variance, or, $\mu i \sim \text{IID}(0, \sigma \mu^2)$, $\lambda t \sim \text{IID}(0, \lambda^2)$, and $v_{it} \sim \text{IID}(0, \sigma v^2)$, with further assumptions that they are all independent of each other and of explanatory variables, then equation (3) gives a two-way random effects error component model or simply the Random Effects Model. Panel data adopted the following analytical models, namely, Constant coefficients (Pooled regression) models, Fixed effects models, and Random effects models.

3.4 PANEL DATA ANALYTICAL MODELS

3.4.1 The Constant Coefficients (Pooled Regression) Model

Vijayamohanan (2016) argues that where was neither significant cross-sectional nor significant temporal effect, the researcher could pool all of the data and run an ordinary least squares (OLS) regression model with an intercept α and slope coefficients βs constant across companies and time. The question of the variables of the model exhibiting a constant correlation over time with unobserved time invariant heterogeneity depends upon application in mind (Bun & Sarafidis, 2013).

3.4.2 Fixed Effects Models

According to Allison (2017), fixed effects models control for, or partial out, the effects of time-invariant variables with time-invariant effects. This is the case whether or not the variable is explicitly measured. Fixed effects models are able to handle the unobserved heterogeneity (Sheytanova, 2014). Nerlove (2005) argues that fixed effects methods omit crucial information about the relation between the explanatory and dependent variables. The current study sought to measure or establish a relationship between Dividend Policy (dependent variable) and Agency Theory (explanatory variable) of financial services companies listed on the JSE. Therefore, fixed effects models are not suited for the current study in light of its limitations. Furthermore, Allison (2017) asserts that fixed effects contained tow models such as Least Squares Dummy Variable (LSDV) and Within-groups regression model, which are briefly discussed below:

3.4.2.1 Least Squares Dummy Variable (LSDV) Model

Pillai (2016) notes limitations with fixed effects (LSDV) model, that it hosts too many regressors, therefore makes the model numerically unattractive and riddled with multicollinearity problems. Meanwhile, the rise of regressors leads to decrease of the degrees of freedom, and the error variance rises, leading to Type 2 error in inference. Furthermore, this model is unable to identify the impact of time-invariant variables. Therefore, it is not suitable for the current study owing to aforementioned problems.

3.4.2.2 Within-Groups Regression Models

The nature of our data had some missing variables and these variables could be correlated with the variables in our panel regression model. Hence, the choice of fixed effects models that may provide a means for controlling for omitted variable bias. The bottom line is that whatever effects the omitted variables have on the subject at one time, chances are that they will have the similar effect at a later stage. As such, their effects will be constant, or “fixed”. However, for this to hold, the omitted variables must have time-invariant values with time-invariant effects.

3.4.3 Random Effects Models

Bell and Jones (2015) assert that random effect is more robust than fixed effect. Similarly, initial studies by Western (1998) and Shor et al. (2007) concur with the aforementioned empirical findings. Furthermore, the Random Effect Model proved to be more efficient way to estimate coefficients for variables exhibiting multicollinearity. The data demonstrated that companies differed with regard to size, assets, leverage, and number of directors. To mitigate this challenge, therefore, the choice of the Random Effects Model was more relevant. This model has shown to be robust in explaining variations between companies. Similarly, Rashid and Rahman (2009), Nazir, Nawaz, Anwar and Ahmed (2010), Hussainey, Mgbame and Chijoke-Mgbame (2011) and Kahn, Aamir, Qayyum, Nasir and Kahn (2011) employed the same model in resolving similar challenges in similar previous studies. These are standard econometrics techniques used to analyse panel data: fixed and random effects. (Two classes of panel estimator approaches that can be employed in financial research-fixed effects models and the Random Effects Models). However, the Random Effects Models have their own shortcomings. Among the limitations of random effects approach, is the problem of potential bias that partial pooling can impose in estimates of β. To avoid this bias, the current study adopted the Hausman test.

3.4.3.1 The Hausman Test

The Hausman test helps to determine the violation of the Random Effects Modelling assumption that the explanatory variables are independent to the unit effects. The Hausman test statistic H was a measure of the difference between the two estimates:

$H = (\hat{\beta}RE - \hat{\beta}FE)^{t-1} [\text{Var}(\hat{\beta}FE) - \text{Var}(\hat{\beta}RE)]^{-1} (\beta RE - \hat{\beta}FE)$.

Consider the null hypothesis orthogonality, H was distributed chi-square with degrees of freedom equal to the number of regressors in the model. According to Akit, Hamzah and Ahmad (2015), REM or FEM should be adopted once the data are tested with Hausman Fixed test.

3.4.3.2 Monte Carlo Experiments/test

Monte Carlo experiments/test was adopted to determine the conditions under which the Random Effects Model provides better estimates of β. The Monte Carlo test was

best suited to investigate the strength of correlation between x and the unit effects, the strength of association between x and y, and the amount of variation in x within units. Furthermore, the Monte Carlo test determined whether the majority of variation in x is located between units or within units.

3.5 GENERALISED METHOD OF MOMENTS (GMM)

The Generalised Method of Moments (GMM) is a statistical method that combines observed economic data with the information in population moment conditions to produce estimates of the unknown parameters of this economic model. In essence, the idea behind GMM estimation is that once it is impossible to solve the system of equations provided by the sample moment conditions, researchers can still have an estimate of θ that brings the sample moments as close to zero as possible.

Bun and Sarafidis (2013) argue that panel data analysis with a small number of time exhibits inference challenges, such as small sample bias in coefficients estimation and hypothesis testing. Owing to this limitation, least squares based inference methods such as fixed effects or and random effects estimators are biased and inconsistent. To overcome this problem, the current study adopted Instrumental Variables (IV) methods or the GMM, which produce consistent parameter estimates. The GMM estimator is more robust of the two methods. Therefore, it was the relevant choice for the current study. Furthermore, the GMM estimation approach could provide asymptotically efficient inference through adopting a relatively minimal set of statistical assumptions (Bun & Sarafidis, 2013). Henceforth, the GMM estimator resonates with the current study. However, the GMM estimator has its own limitations. Therefore, the current study has proposed the use of alternative inference methods that require stringent assumptions. Among these assumptions is the mean stationarity assumption that underpins the system GMM estimator.

3.6 GMM ESTIMATION MODEL

3.6.1 The Dynamic Panel Data Model

In this regard, the estimation of the dynamic panel data model is represented by the equation quoted as follows:

$$y_{it} = \mu_t + \beta_1 x_{it-1} + \beta_2 y_{it-1} + \delta_1 w_{it} + \gamma_1 z_i + \alpha_i + \varepsilon_{it}$$

Moral-Benito (2013) avers that parameters in the equation above can be estimated through maximum likelihood without differencing and any assumptions about initial conditions. The use of GMM estimation approach could lead to asymptotically efficient inference, therefore adopting a relatively minimal set of statistical assumptions. Therefore, GMM estimators generally are more robust than ordinary least squares (OLS) and two stage least squares. Moreover, Benjamin (2015) recommends the use of OLS to determine correlation between explanatory and dependent variables. As such, the OLS regression method was not preferred to determine the correlation between dividend-agency relationship of financial services companies listed on the JSE owing to its limitations.

3.6.2 Maximum Likelihood (ML) Estimation Model

Notably, maximum likelihood estimation is often used to overcome many of the limitations of the GMM methodology. Moral-Benito (2013) and Bai (2013) demonstrate that maximum likelihood estimation can be achieved by eliminating the incidental parameters problem, with no need for special assumptions about initial conditions. The following equation was used to specify the model.

$$y_{it} = \lambda y_{it-1} + x_{it}'\beta + w_i'\delta + \alpha_i + \xi_t + \upsilon_{it} \quad (t = 1\ldots, T)(i = 1,..., N) \qquad (1)$$

Where

y_{it} is the value of y for individual i at time t

y_{i0} is the initial observation of y_{it}, treated as an exogenous variable

x_{it} is a vector of sequentially exogenous/predetermined time-varying variables

w_i is a vector of time-invariant, strictly exogenous variables

α_i is the unobservable time-invariant fixed effect

ξ_t captures unobserved common factors across units in the panel

υ_{it} is the time-varying error term

Moral-Benito (2013) confirms that ML is more efficient than GMM under normality. Furthermore, ML are preferred to GMM counterparts with regard to finite-sample performance. Moral-Benito (2013), and Allison (2014) compared the panel GMM

estimator of Arellano-Bond (1991) with its ML counterpart and confirmed these findings for dynamic panel models with predetermined regressors.

Furthermore, to carry out empirical analysis, the study adopted two main estimators, namely:

- Difference GMM, as proposed by Arellano and Bond (1991); and
- System GMM estimator as advocated by (Arellano & Bover, 1995; Blundell & Bond, 1998).

The study assumed dynamic linear panel data model as follows:

$$y_{it} = \beta y_{it-1} + \alpha_i + e_{it} = \beta y_{it-1} + \varepsilon_{it}$$

According to Calzolari and Magazzini (2013), the difference GMM estimator explores the assumption of lack of serial correlation in e_{it}. Furthermore, this can be tested by using the Sargan / Hansen test and the test for autocorrelation of first difference residuals. Although, Arellano and Bond (1991) demonstrated that in Monte Carlo the test for serial correlation of difference residuals is more powerful than the Sargan / Hansen test. At the core of the current study is an investigation of a relationship between explanatory and dependent variables. Therefore, these tests are consistent with the current study.

3.7 SEVERAL TESTS OF SPECIFICATION FOR PANEL DATA

To ensure that estimation methods were consistent, and estimates are reliable, the current study employed diverse diagnostic techniques. Consequently, several tests of specification were undertaken.

3.7.1 Tests to Unify FE, RE and BE Estimating Methods: Hausman Test

Hausman test was adopted to compare estimators of the tested models. According to Bontempi (2015), this test unifies FE, RE and (between regression) BE estimating methods, therefore enabling the robust version of the Hausman test: Test H_0: $\xi = 0$ for individual effects uncorrelated with covariates. The researcher avoids problems in computing Hausman test. This allows the researcher to test for sub-sets of covariates. Consequently, we can simultaneously estimate the within (effect of an increase over

time of **x**) and the between (effect of differences between units of **x**) effects. The (θ, β) estimates are FE; as a bonus we have estimates of δ. Hausman test proved to be robust in panel data when comparing the estimates of the fixed and random models.

3.7.2 Fixed Versus Random Effects Models; An Alternative to the Hausman Test

In essence, a Hausman test was employed to contrast random and fixed effects (Allison, 2009). Notably, a Hausman test was not without its own challenges such as negative values for some data configurations. However, a likelihood ratio test could produce more robust statistical properties. To demonstrate this, the researcher estimates a fixed effects model with the Bollen and Brand data. The latent variable representing fixed effects was allowed in association with all the time variant exogenous variables. Therefore, in the Random Effects Model those correlations are limited to zero. Upon estimating both models, then lrtest could be adopted to contrast the outcomes. Consequently, in the Random Effects Model, the unobserved variables were assumed to be statistically independent of all the observed variables. In a fixed effects model, the unobserved variables were allowed to have any correlation with the observed variables (Allison, 2014).

3.7.3 Test for Heteroscedasticity

Davidson and Zinde-Walsh (2017) notes that a user-friendly method when testing omitted variables using Wald test. Therefore, the concept of Wald test was to estimate the model with and without constraint. Wald test null hypothesis assumption was that the coefficients of the omitted variables were equal to zero. If this test fails to reject the null hypothesis, then it indicates that removal of variables does not prejudice the fit of the model. Henceforth, a predictor with a coefficient that was relatively small to its standard error was considered not doing much to assist predict the dependent (dividend policy) variable. Both linear models and nonlinear models are susceptible to use Wald test. Consider the following null and alternative hypotheses in both linear model and nonlinear models (Davidson & Zinde-Walsh, 2017):

$H_0 : R\beta - r = 0$

$H_a : R\beta - r \neq 0$

$H_0 : R - r = 0$

$H_a : R - r \neq 0$

The current study uses research questions and secondary objectives; therefore, the Wald test was no longer necessary owing to its strong null hypothesis credentials.

3.7.4 Test for Multicollinearity

Williams (2015) cautions that a tolerance closer to one meant the bit present of Multicollinearity, yet a value closer to 0 suggested that Multicollinearity could be a problem. Adding more variables to the regression model, often minimise the precision of all the estimates. The greater the standard errors, the more the Multicollinearity. However, it should be noted that other factors besides Multicollinearity are responsible for the large standard errors. If the presence of high Multicollinearity is detected, then confidence interval for coefficients is often very wide meanwhile t-statistics are often very small. It becomes impossible to reject null hypothesis in the presence of Multicollinearity.

To mitigate the Multicollinearity, the current study increased the sample size to thirty companies. Accordingly, these usually reduced standard errors, therefore make the results less of sampling bias. The researcher used several panel data analytical models from similar previous studies to overcome Multicollinearity as per the recommendation of (Williams, 2015). The researcher had foreign variable to determine its influence. However, the researcher was more than willing to drop this variable if it caused Multicollinearity.

3.7.5 Panel Model with Goodness of Fit Statistics

Brooks (2014) posits how well does the panel data regression model exhibiting the explanatory variables explain variations in the dependent variable. The researcher considered residual sum of squares (RSS) in an effort to address the question of goodness of fit statistics. Notably, attention was paid to OLS that selected the coefficient estimates that minimised this quantity. Consequently, the lower was the minimised value of the RSS, the better the model fitted the data. The most employed goodness of fit statistic by similar studies was called R^2.

3.7.6 Poolability Test (between Pooled Regression and FE Model)

In order to test whether the population parameters are the same across individuals, a pooltest tested the hypothesis (Alvarez, Barbero & Zofio, 2017). Therefore, the researcher wants to test the stability of the coefficients, H0: βi = β. However, the t-test is not sufficient to cope with this sort of hypothesis test. To overcome this limitation, the current study adopted an F-test. According to Brooks (2014), the F-test statistic for testing multiple hypotheses about the coefficient estimates is calculated as follows:

$$\text{Test statistic} = \frac{RRSS - URSS}{URSS} \; x \; \frac{T-k}{m}$$

Where

URSS = residual sum of squares from restricted regression

RRSS = residual sum of squares from restricted regression

m = number of restrictions

T = number of observations

k = number of regressors in unrestricted regression including the constant

Assume the residual sum of squares increased after the restrictions were undertaken, it would be concluded that the restrictions were not supported by the data and consequently, the hypothesis should be rejected. Alternatively stated that RRSS ≥ URSS.

3.7.7 Testing Serial Correlation

It was necessary for the current study to identify serial correlation in the error term. Consequently, it can bias the standard errors and causes loss of efficiency. Therefore, the current study tested for serial correlation in both random and fixed effects models. Wooldridge (2010) argues for woolserial test to be performed for the null hypothesis of no serial correlation in the error term of a fixed effects model.

3.7.8 Testing Over-Identifying Restrictions: Sargan-Hansen Test

A Sargan Hansen type test was used to test for over-identifying restrictions. This test further evaluates the validity of the instruments in instrumental panels. Assume the null hypothesis that instruments are uncorrelated with the error term, validity of the over-identifying restrictions, the statistic was distributed as a $\chi 2$ where r is the number

of over-identifying restrictions. The input of the sarganoitest function must be an estimation output structure from an instrumental panel. Researchers overwhelmingly employed difference GMM and system GMM, owing to its ability to generate instruments sufficiently. To determine whether the estimated model was over fitted with instruments, Sargan test has proven to be best suited.

3.8 RESEARCH QUESTIONS

To answer the following research questions, the researcher focused on the financial' services sector of the JSE listed companies. This sector had 236 JSE listed financial services companies by the year-end 2016. The following questions sought to determine the key research objectives, that is, to determine the extent dividend-agency relationship reconcile to reduce agency problems, and also to determine whether the dividend-agency relationship mitigates agency cost on the JSE listed financial services companies. The analysis of research questions was executed using EViews version 9 owing to its robust statistical analysis. The research questions are as follows:

- What is the relationship between dividend policy and agency problems of financial services companies listed on the JSE?
- What role does the dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems?
- What influence do the factors that underpin both agency problems and dividend policy of financial services companies listed on the JSE have on the shareholder wealth maximisation?

Secondary data were collected from IRESS database and was further supplemented with annual financial reports (JSE, 2017). These data came through in shareholders' analysis and shareholding data reports.

What is the relationship between dividend policy and agency problems of financial services companies listed on the JSE?

In order to answer the first question, both shareholders' analysis and shareholding data reports were key. The shareholding data report had full details of the local and

international companies in terms of their shareholding ownership. The challenge with this data was that financial services companies were not disaggregated as local or international; they were just mixed up. To mitigate this challenge, the researcher relied on shareholders' analysis report. This report clearly disaggregated between local and international companies in terms of their shareholding ownership. The study covered a period of 12 years from 2005 until 2016. Owing to this lengthy period, some companies were missing. In mitigating this challenge, the researcher used annual financial reports (JSE, 2017). The annual financial reports were able to explain in detail that the missing companies were because of mergers and takeovers. Furthermore, critical information regarding directors' share ownership and dividend decision was detailed in the annual financial statements. After addressing these data challenges, the researcher was able to answer the main research question.

What role does the dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems?

The Agency Theory posits that dividend-agency relationship mitigates agency cost (Jensen & Meckling, 1976). Although JSE listed financial services companies continued to pay dividends, they consistently experienced agency cost (Steyn & Stainbank, 2013; Piketty, 2014). In light of this contradiction to the Agency Theory' expectations, therefore, the current study sought to determine the extent to which the role played by dividend-agency relationship in resolving agency problems.

What influence do the factors that underpin both agency problems and dividend policy of financial services companies listed on the JSE have on the shareholder wealth maximisation?

The factors that underpin both dividend policy and agency problems of financial services companies listed on the JSE are company size, total assets, percentage shareholder ownership by companies, and management. The challenge observed by the researcher was that all sampled companies differed with regard to the mentioned factors. To mitigate this difficulty, the researcher ensured equal representation of companies. A proportional stratified sampling technique was employed to ensure accuracy of the statistical findings. Furthermore, King IV Report (2016) recommends that shareholding ownership per director should not exceed 5% in order to maintain

independency. However, directors vote as a block, meaning that even if the director owns less than 5%, once their vote goes to a pool, it becomes more influential. To mitigate this challenge, shareholders' analysis report clearly disaggregates between the total percentage of shares owned either by directors or companies. Consequently, the statistical analysis was well informed of the influence of the factors aforementioned. Descriptive statistics were used to compare averages or means to determine whether wealth maximisation was influenced by the underpinned factors or otherwise.

3.9 THE STUDY DESIGN

This research design was intended to employ various measures to control systematic bias, confounding variables and other sources of error (Mouton, 1996:176). Zikmund (1997:48) defines research design as a masterpiece plan specifying the methods and procedures for collecting and analysing the required data. Accordingly, Hesketch and Laidlaw (2013) mentioned three research designs, namely, explanatory research, descriptive research and causal research. Explanatory research is focused on 'why' questions and it was irrelevant for the current study. Essentially, descriptive research was more concerned with the relationship between two variables, in this instance dividend-agency relationship. Therefore, descriptive research design was relevant in answering the main research question that sought to investigate the relationship between dividend policy and agency problems (dependent and independent variable).

3.10 RESEARCH PHILOSOPHY AND APPROACH

Quantitative research is generally associated with objective reality especially when used with predetermined and highly structured data collection techniques (Saunders et al., 2012). In this regard, the secondary data were collected without the involvement of the researcher. Therefore, it fits the description of objective reality. Positivism prefers collecting data about an observable reality and search for regularities and causal relationships in your data to create law-like generalisations like those produced by researchers (Gill & Johnson, 2010). As a result, management's dividend decision and its relationship with agency problems resonate with the concept of positivism. Quantitative research is usually associated with a deductive approach, where the focus is on using data to test or confirm theoretical assertions (Saunders et al., 2012).

In this study, dividend policy and the Agency Theory were used to guide and inform the formulation of research questions, the collection and analysis of data. Against this backdrop, this was referred to as deductive research (Gill & Johnson, 2010).

The process of deductive research was often associated with quantitative research and involves examining relationships between variables (dividend-agency variables), which are measured numerically and analysed using a range of statistical techniques. In this study, the deductive process was closely associated with confirming assumption theories that guided the development of research questions (Creswell, 2015). It is in the nature of quantitative research designs to give clear and unambiguous results about causal relationships, which this study hopes to achieve (Marx, 2004). This characteristic of quantitative research design was critical in the current study, considering that the secondary objectives are focusing on a cause effect relationship to determine the extent to which dividend and agency theories reconcile, to achieve the goal of shareholders' wealth maximisation. Furthermore, if the alignment of management interests to that of the company owners was achieved, does this resolve agency problems of JSE listed financial services companies? The generalisability of findings and external validity of quantitative research are based on large statistical sample across several companies in this regard 236 JSE listed financial services sector (Creswell, 2015).

3.11 THE STUDY VARIABLES

To address the research questions and objectives of the study, the researcher considered dependent and independent variables that can be tested and measured to confirm theoretical assumptions of dividend-agency relationship.

3.11.1 Dependent Variables

The dependent variables are dividend payout ratio measured by dividends per share divided by earnings per share and dividend yield measured by dividends per share divided by the price of the stock.

3.11.2 Independent Variables

Company Size represents the total assets owned by the company and measured by the natural log of total assets. This is in accordance with many other studies, including, Sharma (2011), Adjaoud and Ben Amir (2010), Akhigbe and Whyte (2012), and Thanatawee (2013). Certainly, the current study had as its objective determine what influence do the factors that underpin both agency problems and dividend policy of financial services companies listed on the JSE have on the shareholder wealth maximisation?. The extent of the size of the company influences the payment of dividends thereby aligning the interests of management to that of the company owners. Notably, the study observed with great interest the results between the smaller and bigger companies on this variable. This is possible because the population for the study consists of companies with a variation in their sizes. It is generally presumably that larger companies are more often than not subject to greater agency problems. Therefore, this variable is very relevant to be scientifically tested and put the assumption to rest. International studies have identified a positive relationship between the natural log of total assets and dividend payout (Adjaoud & Ben-Amir, 2010; Warrad, Abed, Khriasat & Al-Shiekh, 2012; Thanatawee, 2013).

Institutional Ownership, such as hedge funds, insurance companies and mutual funds measured by the percentage of stock held by institutions, could have a negative or positive relationship with dividend payout ratio, depending upon whether institutional ownership serves as substitutes for dividends, reducing agency problems or they are non-responsive to agency problems of financial services companies listed on the JSE.

In a study, focusing on bank holding companies, Wen and Jia (2010) found that institutional ownership is negatively related to dividend yield and this was also the case for insurance companies and hedge funds companies. These findings seek to confirm the theoretical assumption that institutional ownership mitigates agency problems thereby aligning management interests to that of the company owners. However, Khan (2006) reports a positive relationship between insurance companies' ownership concentration and dividend payout ratio. Meanwhile, Fama and French (2001:3) underscore that the declining propensity to pay dividends could be explained by the changing characteristics such as the size of the company, return on assets and the

upholding of corporate governance principles by publicly listed companies. It is worth noting that the declining propensity to pay dividends differ from country to country as highlighted above in the case of South Africa. In line with Fama and French (2001), Denis and Osobov (2008) and Fatemi and Bildik (2012:662) also found that non-payers tend to be newly listed, smaller and less profitable companies with fewer investment opportunities available to them (as measured by asset growth rates), compared with dividend payers. Notably, these findings cut across developed and developing countries and further confirm that companies live in a global village despite their locally unique landscape.

Cash Flows are frequently used to determine the relationship with dividends. As such, Amidu and Abor (2006), Gill, Biger and Tibrewala (2010) contend that this variable is the major determinant of dividend policy; hence its choice for this study. Furthermore, the Agency Theory advocates a positive relationship between dividend payout ratio and company cash flows. In light of this theoretical assumption, the objective of the study is to determine the dividend-agency relationship of financial institutions listed on the JSE.

Financial Leverage indicates the level of a company indebtedness measured by total liabilities divided by total assets. Agency theory asserts that companies should pay out high dividends therefore, reducing cash flows available to management. Accordingly, this will force the company to borrow funds from the markets to finance its investments. As a result, an investigation into the relationship between leverage and dividend is relevant for the current study. To determine the relationship between leverage and dividends, Al Shabibi and Ramesh (2011) conducted a study in United Kingdom and found no significant relationship between the mentioned variables. However, Al-Kuwari (2009) found strong negative correlation between leverage and the dividend payout ratio. The divergence of statistical findings on the aforementioned variables necessitates that we investigate the relationship of these variables in South Africa listed financial services companies for the period 2005-2016.

Profitability, the dividend policy decision to pay dividends starts with company profits. Therefore, company owners, creditors and management pay close attention to company profits given its role in attracting capital and external investors. Amidu and Abor (2006), Anil and Kapoor (2008) conducted empirical studies in which they have

used profitability in order to determine the relationship with company's dividend payout ratio. These studies found a positive relationship between profitability and dividend payout ratio, which meant that companies with high profits tend to payout more dividends. However, in this study profitability will be used to determine its influence when it is used as a substitute for bonus dividends, whether it does mitigate agency problems. Certainly, there are various measures of profitability (Gitman et al. 2014). Gill et al. (2010) used EBIT / Total assets as a measurement of profit. Meanwhile, Al-Kuwari (2009) used ROE (Net profit / Equity) as a measurement of profits. The current study on dividend payout ratio, hence the choice of ROE.

Foreign is a measure of the percentage of foreign ownership (Manos, 2002). The developed countries often hold stock of developing countries as part of long-term investment strategy (Glen, Karmokolias, Miller & Shah, 1995). Therefore, this suggests a negative relation between Foreign and the payout ratio (Manos, 2002). The Agency Theory postulates that the present of foreign control in a local company brings forth monitoring hence lesser need for the dividend induced monitoring device. Contrary to Manos' findings (2002), Cavda and Aydin (2015) found a significant positive association with the dividend payout ratio at 5% significance level. Based on these findings, it means that the higher the foreign ownership in the local company, the higher will be dividend payment.

CEO Ownership is measured by the percentage of stock owned by the CEO. It is predicted to be negatively related to dividends. This means that the higher the CEO ownership steak, the lower the dividend payout ratio. Executive stock ownership may serve as an important device in reducing agency friction in situations in which information asymmetries prevent the board from effectively monitoring the company's cash management and capital spending activities (Williams, 2015; Haye, 2014).

Explanatory research design is more relevant in creating hypotheses while the causal research determines the causal effect relationship through an experiment. For the current study, descriptive and causal researches are more relevant as the study employed quantitative approach and used secondary data. Descriptive research was used to determine the relationship between payout ratio (dependent variable) and any of the independent variables such as institutional or insider ownership. To help carry out the secondary objectives, the study has employed causal relationship in order to

determine if the relationship between the variables from two theories is positive, if so does it increase the shareholder wealth. Alternatively, if the relationship is negative does it reduce the shareholder wealth?

3.12 DATA COLLECTION

The research questions were empirically answered using secondary data collected from IRESS database, supplemented with information from profile stock exchange handbook for the period 2015. Justification for the use of annual report and financial statements from IRESS database is that these financial statements are audited and standardised. All the downloaded data were captured in MS Excel spreadsheet and further imported into statistical packages EViews version 9 for robust analysis purposes. The collected data included the companies' names, the JSE Code, the percentage shareholding by directors, the percentage shareholding by institutions, payout ratios, and total assets, and total liabilities, earnings per share, net profit, and notes where companies might have changed names. To normalise data, ensuring that it is comparable between the different companies, the following variables were calculated for each company (Steyn & Stainbank, 2013):

- Profits attributable to ordinary shareholders as a percentage of total assets; and
- Directors' remuneration as a percentage of total assets.

Furthermore, annual reports from the Internet were obtained to further supplement the data and also used to verify data to ensure accuracy. Cooper and Schindler (2014) defined secondary data as textbooks, handbooks, newspaper articles, sales analysis summaries, and investor annual reports. The study employed secondary data considered to be very objective in that the researcher was not party in its collection. According to Marx (2004), the higher objectivity and reliability as pre-defined statistical and mathematical analysis techniques was an advantage of using quantitative research to ensure credible findings.

Although the annual report, to those who are outside the company was viewed as a primary source because it represents the official position of the corporation (Cooper & Schindler, 2014). Quantitative research was ideal for a study that aims at generalising the findings within the financial services companies and data were as objective as

possible (Terre Blanche, Durrheim & Painter, 2011). This is what this study strives to achieve. Henceforth, quantitative research was more relevant to be used in this regard.

3.13 CLEANING THE DATA SET AND TARGET POPULATION

In some instances, companies appeared twice in the IRESS database. As such, we had to double-check the data using annual reports and delete the repeated companies. At some stage during financial period, companies changed their names and others merged. Therefore, annual reports of these companies were used to verify data ensuring accuracy. The population was made up of financial services companies listed on the JSE and delisted companies were identified through cleansing period and were removed from the data. Although some companies were suspended by the JSE, they remained operational, therefore, they were included in the sample frame. The main reason for delisting of companies was bankruptcy as per annual reports. For the purpose of this study, there was no need to conduct interviews to further supplement the secondary data at hand. The companies under the financial services sector had some common defining characteristics, therefore constituted target population as defined by Creswell (2014). Accordingly, in this research, the target population refers to the entire 236 financial' services sector companies listed on the JSE as of 2016.

3.14 DATA ANALYSIS TECHNIQUE

The study adopted descriptive statistics measures of tendency to determine dividend-agency relationship of JSE listed firms for the period 2005-2016. In addition, the White cross-section method was employed owing to its robustness to cross-equation correlation and heteroscedasticity. Furthermore, to correct for heteroscedasticity and general correlation observations within a cross-section, the study employed Seemingly Unrelated Regression (SUR) model. Similarly, Vo and Nguyen (2014) employed SUR model to address similar statistical challenges. In response to the problem of non-stationarity, the current study employed Co-integration analysis to resolve spurious statistical findings. This study adopts panel EGLS (Cross-section weights) regression model to provide answers to the research questions and objectives. According to Bruderl (2005), panel data further reduces the collinearity among the independent variables and increases the precision of the regression model.

Furthermore, panel data allow the control for individual unobserved heterogeneity. The multiple linear correlation regression analysis was used to examine dividend-agency relationship. Owing to SPSS' limitations on econometrics modelling, EViews version 9 was employed to perform statistical analysis. Descriptive statistics was more relevant for the study to help determine dividend-agency relationship and answer research questions.

The current study took cure from similar previous studies that employed diverse panel data techniques to analyse their data, therefore, adequately responded to the research questions and objectives. A highlight of such studies are captured as per the Table 3.1. The various statistical techniques used ensured robust statistical findings, which the current study hope to achieve. The dynamics of data limitations forced the researcher to drop some of panel data statistical techniques, such as OLS regression and random effect. As such, this study turned to be slightly different from other previous studies, even though it had employed similar panel data statistical techniques. To mitigate the limitation challenges for the current study, Table 3.1, brought forth multifaceted panel data statistical techniques to guide study to robust findings.

Table 3.1: Panel data studies that determine relationship between variables

Author(s)	Estimation Method(s)
Olufawoye, Iyoha & Izedenmi (2017)	Panel Data regression & FE
Chemilo & Kiprop (2017)	Panel data regression analysis
Brown & Roberts (2016)	OLS Regression & Tobit Model
Akit, Hamzah & Ahmad (2015)	Pooled OLS Regression, RE, & FE
ENG, Yahya and Hadi (2013)	GMM, & RE
Ehikioya (2015)	OLS Regression
Guizani & Kouki (2012)	OLS Regression, RE, & FE
Hong Vo & Nguyen (2014)	Two Stage Least Square (2SLS), Three Stage Least Square (3SLS), Seemingly Unrelated Regression (SUR)
Aydin & Cavdar (2015)	Standard OLS
Nnadi, Wogboroma, & Kabel (2013)	Tobit Model
De Wet & Mpinda (2013)	Pooled OLS Regression, RE, & FE
Sakinc & Gungor (2015)	Panel data regression analysis

Source: Researcher's own compilation, 2018.

Panel data analytical techniques estimation models highlighted from the Table 3.1 studies underscored the methodology employed to ensure reliability and consistency with similar previous studies. The study focused on all sub-sectors of the financial' services sector companies called cross sectional analysis. Furthermore, the study time frame covered 12 years from 2005 to 2016, therefore, time series analysis. This period was informed by the promulgation of dividend legislation, which became applicable from 01 April 2012. The study sets out to determine trends prior and post the implementation of the aforementioned dividends legislation. Notably, all companies differed based on the following factors: company size, leverage, total assets, percentage of stock ownership by management and by other companies. To mitigate this effect, proportional stratified sampling model was used. Similarly, Nawaz, and Ahmad and Javid (2010), Hussainey, Mgbame and Chijoke-Mgbame (2011), Kahn, AaMir, Qayyum, Nasir and Kahn (2011) adopted the proportional stratified sampling model to address the similar challenges. Similarly, the current study adopted proportional stratified sampling model as a sampling technique to ensure equal representation.

Similar previous studies also adopted panel data regression analysis (Steyn & Stainbank, 2013; Huda & Abdullah, 2014; Ahmed, 2014; Deysel & Kruger, 2015). All these studies dealt with a relationship between variables. Therefore, the current study adopted panel data so that the results are comparable with other findings. Consequently, the EViews was used to measure the extent to which a correlation analysis present in one variable is presented by a variance in another variable to ensure comprehensive analysis. To determine correlation between dependent and explanatory variables, Pearson's correlation matrix was adopted in a similar study (Huda & Abdullah, 2014). According to Osegbue, Ifurueze and Ifurueze (2014), Durbin-Watson autocorrelation statistics was employed in similar previous study to determine the presence of serial or autocorrelation. Meanwhile, Asteriou and Hall (2011) argue for the use of Pooled Ordinary Least Square (POLS) method in determining autocorrelation. The problem of multicollinearity in explanatory variables on similar previous studies was detected through correlation and coefficient variation statistics.

However, the current study employed panel data regression and the cross section time analysis to provide answers to the research questions raised. The motivation to use panel data allowed the control for variables that cannot be observed or measured like differences in business practices across sub sectors within financial' services sector of companies listed on the JSE. Furthermore, panel data allowed the control of variables that change over time but not across companies; for example, national policies and government regulations (Torres-Reyna, 2007). Consequently, panel data accounted for companies' individual heterogeneity, henceforth, ensuring robust results.

To describe variables, descriptive statistics test provided the central tendency, variability and relative standing measures to answer research questions and hypotheses expectations (Creswell, 2014). Measures of central tendency were used to describe trends in independent variables through the use of mean, mode, median, therefore, indicating general tendencies in the data (Creswell, 2014). Saunders et al. (2016) argue that in a time series study, trends could also be calculated using time analysis. As a result, this found resonance with the current study. Measures of variability, namely, variance, standard deviation, and range were used to compare the spread of scores with other studies. A bar graph can be used to further demonstrate the frequency of occurrence as determined by the length of each bar (Saunders et al., 2016). To answer the main research question: What is the relationship between dividend policy and agency problems of financial services companies listed on the JSE? Inferential statistics were used to analyse data from the financial services sector sample to draw conclusions about an unknown entire JSE financials population. A sampling technique is described below to assist in answering the main research question.

3.15 SAMPLING TECHNIQUE

Creswell (2014) defines a sample as a subgroup of the target population and the current study plans to generalise its findings, in this regard within the financial services sector. Meanwhile, Cooper and Schindler (2014) argue that sampling was necessary to achieve greater accuracy of results and greater speed of data collection, hence the reason sampling was done for the current study. The financial services sector consists

of a number of sub-sectors: banks, insurance companies, investment companies, investment entities, life assurance companies, real estate, and companies offering specialty and other financial services, investment banks that provide a range of specialist financial services, stockbrokers, institutional providers of mortgages and mortgage insurance and financial holding companies (Muller, Firer & Viviers, 2013). This study sought to test associations between dividend-agency relationship, therefore, place a considerable emphasis on large sample size. As a rule, the larger the sample size the more accurate the findings and the lower the likely error in generalising to the population within financial services sector (Saunders et al., 2012). In proportionate sampling, each stratum was properly represented so that the sample size drawn from the stratum was proportionate to the stratum's share of the total population (Cooper & Schindler, 2014). The financial services sector, which was the target population, consists of sub-sectors and these sub-sectors represent study strata. The characteristics of the stratum reflected an imbalance, as some are bigger than others; hence, the use of proportionate stratified sampling to ensure that each stratum was proportionately represented. This approach has higher statistical efficiency than a simple random sample. In support of this sampling technique, Cooper and Schindler (2014) further argue that this approach was much easier to carry out than other stratifying methods.

To determine the sample size, a confidence level of 95% was required for the data to ensure that the collected data were representative of the characteristics of the total population. Furthermore, 5% was considered the margin of error the study can tolerate for accuracy. In line with Stutely's (2003) advice of a minimum sample of 30 was adopted for the study to ensure a normal distribution. Similarly, Creswell (2014) argues for a minimum sample size of 30 for a correlational study that relates variables. Therefore, this was consistent with the current study. Furthermore, minimum sample population was necessary to ensure generalisability of the findings within financial services sector. As demonstrated in Table 3.2, Creswell (2014) provides the following procedure employed for calculating a proportional stratified sampling:

- Divide the population by the stratum, this led to a fraction;
- The researcher decided to record only three digits after the decimal point;

- Sampling within each group in the stratum by multiplying fraction and minimum sample size, to ensure proportional representation in the total population; and
- Some of the proportional representation figures were captured as fraction, which total up to up to a minimum sample of 30.

Table 3.2: Formula employed to calculate stratified proportional representation

Sub-sectors/Strata		Stratum / Population	Fraction x Minimum sample = proportional representation
Banks	= 7	7/236 = 0.029	0.02966 x 30 = 1
Financial services	= 27	27/236 = 0.114	0.1144 x 30 = 3.4
Asset managers	= 7	7/236 = 0.029	0.02966 x 30 = 1
Investment services	= 8	8/236 = 0.034	0.03390 x 30 = 1
Speciality Finance	= 10	10/236 = 0.042	0.04237 x 30 = 1
Insurance	= 8	8/236 = 0.034	0.03390 x 30 = 1
Life insurance	= 9	9/236 = 0.038	0.03814 x 30 = 1
Equity Investments	= 11	11/236 = 0.047	0.04661 x 30 = 1
Real Estate	= 49	49/236 = 0.208	0.2076 x 30 = 6.2
Real estate investment & services	= 17	17/236 = 0.072	0.07203 x 30 = 2.2
Real estate holding & development	= 17	17/236 = 0.072	0.07203 x 30 = 2.2
Real estate investment trusts	= 33	33/236 = 0.139	0.1398 x 30 = 4
Diversified reits	= 13	13/236 = 0.055	0.05508 x 30 = 2
Industrial reits	= 6	6/236 = 0.025	0.02542 x 30 = 0.8 or 1
Retail reits	= 14	14/236 = 0.059	0.05932 x 30 = 1.8 or 2
Financials population	= 236		Minimum sample = 30

Source: Researcher's own compilation, 2018.

As a result of proportional sampling technique adopted in Table 3.2, proportional representation of companies per sector might appear as a fraction. In such instances, if a fraction is 0.5 or above, we rounded off the number to one. However, if a fraction

is below 0.5, we did not round off. Therefore, the figure is captured as a fraction. The whole list of 236 financial services companies that form the target population was attached as a Table 3.2.1, under appendix A.

Model Specification: Based upon the gathered data, the theoretical model was tested by means of available research statistical methods (Regression analysis, Cluster analysis, Structural equation modeling, advanced Time Series, Multivariate data analysis, among many others). Depending on the significance level of the tested models, therefore, theoretical assumptions are confirmed or rejected (Moser, Sauer & Xu, 2014).

The following Multi Linear Regression Equation was modeled after several researchers' work (Manos, 2002; Said 2013; Huda & Abdullah, 2014).

$$\mathbf{DIV_{it}} = \beta_o - \beta_1 INST_{i-t} - \beta_2 DIRS_{i-t} + \beta_3 SIZE_{i-t} - \beta_4 FOREIGN_{i-t} + \beta_5 LEV_{i-t} + \beta_6 ROE_{i-t} + \beta_7 PROF_{i-t} - \beta_8 CASH_{i-t} + \varepsilon_{i-t}$$

Where:

β_o is the intercept

ε_{it} is composite stochastic error term

β_1 is the regression coefficient

i the subscript represents different companies

t represents different years

In line with the Agency Theory as articulated by Jensen and Meckling (1976), numerous measurements and proxies were employed to determine dividend-agency relationship. A series of similar previous studies are highlighted in this Table 3.3, which adopted similar measurements and proxies like the current study. The utilisation of these measurements and proxies provides consistency and reliability in determining dividend-agency relationship. Consequently, this will allow comparison of findings with other previous similar studies that adopted same measurements to determine relationship between dependent and indepent variables.

Table 3.3: Variables, proxies and measurement formulars

Dependent variable	Definition	Measurement
Cash	Cash Flow	Current ratio used by Olufawoye, Iyoha and Izedonmi (2017)
Prof	Profitability	ROA, EPS after tax used by Ali, Azam, Shehzadi, Tahir and Ullah (2016)
Lev	Leverage / Debt ratio	Total liabilities / total assets used by Al Malkawi (2007) and used by Olufawoye, Iyoha and Izedonmi (2017)
INST	Institutional ownership	Percentage of shares held by insurance firm, hedge funds, mutual funds
Foreign	Foreign	Percentage of foreign ownership
DIRS	Directors	Percentage of share held by directors. Used by Al Malkawi (2007)
SIZE	Firm size	Natural logarithm of book value of total assets
ROE	Return on Equity	Net profit/Share holders' equity
DIV	Dividends	Payout ratio

Source: Researcher's own compilation, 2018.

From Table 3.3 depicted the use of cash flow to measure agency cost between dependant and independent variables (Olufawoye, Iyoha & Izedonmi, 2017). Similarly, the current study adopted cash flow as part of the proxies to measure agency cost between dividend-agency relationship. A performance measure return on equity (ROA) was used to measure agency cost, in this regard between dividend-agency relationship (Ali, Azam, Shehzadi, Tahir & Ullah, 2016). The current study provides a point of departure from similar previous studies by adopting foreign and institutional ownership measurements. This makes the study to be slightly unique from other similar previous studies.

3.16 VALIDITY AND RELIABILITY OF THE FINDINGS

Bryman and Bell (2011) define validity as proper measurements chosen for the study and well aligned to achieve the study objectives; in this regard to investigate the relationship between dividend-agency variables. Meanwhile, Saunders et al. (2016) report that validity demonstrated the extent to which the measurements are correct

and the research outcomes are truthful. Creswell (2014) cautions that there are two potential threats to validity, namely, threats to internal validity and threats to external validity.

3.17 CHAPTER SUMMARY

This chapter focused on the panel data methodology and the study design to achieve its research objectives. Panel data regression analyses were employed to ensure robust results. The panel data models enhanced the quantity and quality of data far better than any other methodology for the current study. The panel regression analysis took control of individual heterogeneity, therefore, confirming that JSE listed financial services companies are heterogeneous. To test the relationship between variables, this chapter discussed dependent and explanatory variables, as well as several tests for panel data. Panel data also ensured less collinearity among variables. GMM models and GMM estimation model were discussed on how to control the impact of omitted variables. In order to address the problems of heteroscedasticity and autocorrelation, this chapter adopted panel data econometric analysis. In addition, GMM models were employed in this chapter to control heteroscedasticity and normality owing to its robustness. The last component adopted in this chapter was the study design. In this chapter, dividend policy and the Agency Theory informed the development of research questions. This chapter has employed research design that ensures validity and reliability through the quantitative approach. This chapter specified methods and procedures for analysing quantitative data therefore, answering the research questions.

In Chapter 4, several tests for panel data and confirmation of statistical results will be examined and compared with other previous findings from similar studies. Furthermore, Chapter 4 provides scientific results to research questions using research statistical package EViews version 9 to perform statistical analysis to determine dividend-agency relationship between variables.

CHAPTER 4

RESULTS OF FINANCIALS' SECTOR ANALYSIS

4.1 INTRODUCTION

This chapter builds upon the previous chapters and mainly seeks to answer research questions, using EViews version 9 to perform regression statistical analysis. The choice of EViews for data analysis was motivated by its robustness ability and user-friendly approach. Essentially, the previous chapter adopted panel data methodology and study design in order to answer research problem through research questions, in order to achieve research objectives. The previous chapter through its panel data models and several statistical tests provided tools to determine the extent of dividend-agency relationship between dependent and independent variables.

This chapter applied research instruments from the previous chapter to determine dividend-agency relationship between dependent and independent variables. Furthermore, this chapter conducted several tests to confirm or reject assumption theories' expectations, as well as test statistic. This chapter presents statistical analyses results, discusses empirical findings and juxtaposes with similar previous studies. In line with Saunders' et al. (2016) assertion that for reporting, tables, and statistics were adopted to explore, present, describe, and examine dividend-agency relationships. Essentially, this chapter presents the findings, thereby answering the research questions and achieves the study objectives. To determine dividend-agency relationship, the study had to answer the primary research question. What is the relationship between dividend policy and agency problems of financial services companies listed on the JSE? The research question arose owing to contradictory empirical findings that confirmed the existence of dividend-agency problems. Notwithstanding, dividend policy assertion that if a company pay dividends, then it resolves agency problems (Easterbrook, 1984).

The rest of the chapter covers the following subtopics: Section 4.2 presents descriptive statistics, which covers the central measures of tendency. Section 4.3 presents correlation matrx analysis to determine the dividend-agency relationship between

variables. Section 4.4 presents panel unit root test results, therefore determine stationarity of data. Section 4.5 presents the analytical procedure. Meanwhile section 4.6 presents regression results. Section 4.7 concluded the chapter.

4.2 DESCRIPTIVE STATISTICS

The descriptive statistics, correlation and regression analysis were performed using EViews statistical version 9 package. This was in line with similar previous studies, which had similar choice of statistical software package (Aydin & Cavdar, 2015). The central measures of tendency namely, mean, median, standard deviation, minimum, and maximum values of the variables were captured in Table 4.1. The latter contains group descriptive statistics of the variables for the period 2005-2016. Where CASH stands for cash flow, DIRS stands for directors, DIV represents dividend payout ratio, FOREIGN represents foreign companies, INST represents hedge funds, insurance companies, mutual funds etc. LEV represents level of company indebtedness, PROF represents company profits, ROE represents return on equity, SIZE represents companies' size. The results from Table 4.1 are analysed subsequently per aforementioned variables.

Table 4.1: Group descriptive statistics of the variables 2005-2016

VARIABLES	CASH	DIRS	DIV	FOREIGN	INST	LEV	PROF	ROE	SIZE
Mean	1.781239	28.69266	0.546935	4.374352	65.31026	2631864.	0.038488	0.178283	15.41317
Median	0.953927	32.61850	0.361959	2.683600	59.17870	210176.8	0.025988	0.107027	15.72577
Maximum	118.9189	52.55060	3.471248	23.12280	99.49630	49911815	5.558751	33.39196	20.86103
Minimum	0.000000	0.415200	-3.500000	0.000000	43.40450	219.1767	-1.770588	-15.51657	7.601402
Std. Dev.	6.789046	13.62915	0.577076	5.103651	15.74453	7626875.	0.350382	2.265426	2.607769
Skewness	15.52382	-0.419562	-1.252515	1.512615	0.647143	3.987876	11.05559	9.105808	-0.360682
Kurtosis	265.7546	2.259628	16.58768	5.647516	2.276539	19.06388	187.3763	151.0406	3.021620
Jarque-Bera	980055.1	17.53193	2672.602	226.2590	30.77999	4503.250	482769.3	311467.6	7.291651
Probability	0.000000	0.000156	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.026100
Sum	598.4963	9640.735	125.2903	1469.782	21944.25	8.84E+08	12.93189	59.90308	5178.825
Sum Sq. Dev.	15440.53	62227.47	111.5607	8725.831	83043.27	1.95E+16	41.12718	1719.272	2278.154
Observations	336	336	336	336	336	336	336	336	336

Source: Researcher's own compilation, 2018.

Table 4.1 demonstrated that companies on the JSE under the financial services sector on average experienced dividend payout ratio (DIV) of 54.69% mean ranging from minimum (min) -3.5000 to maximum (max) 3.4712. This implies that the majority of financial services companies listed on the JSE practice dividend decision. Notably, this practice is well entrenched, considering gradual improvement from negative range of min -3.5000 to positive range of max 3.4712 over a period of 12 years (2005-2016). It can be noted that these findings are in line with results reported by (Piketty, 2014).

In South Africa, dividend legislation became applicable for the first time from 01 April 2012, therefore negative range (min -3.5000) to some extent elucidates the period prior dividend regime. The results were consistent with other South African studies that had confirmed that JSE listed financial services companies do pay dividends (Muller, Firer & Viviers, 2013). Bird in the hand sub-theory postulates that dividends received today are less risky than future value, as confirmed by (Monogbe & Ibrahim, 2015). This is further confirmed by high average payment of dividend payout of 54.69%.

From Table 4.1, it can be observed that ownership stake on JSE listed financial services companies by FOREIGN companies had an average mean of 4.3743 ranging from min 0.000 to max 23.1228, implying that ever since the application of dividend regime JSE listed financial services companies enjoyed improved business confidence to a maximum of 23.1228. This implied that local business enjoyed foreign confidence from business counterpart of almost 5%. Furthermore, this meant that foreign companies exert minimum corporate governance principles on local companies. The involvement of foreign companies locally boosts investor confidence and further improves corporate governance. Consequently, this forces management to align their interest to that of the shareholders, therefore maximises shareholder wealth.

Table 4.1 depicts that companies' directors (DIRS), inclusive of both executive and non-executive directors was calculated as percentage of shares held by directors. According to Table 4.1, DIRS on average had a mean of 28.6926 ranging from min 0.41520 to max 52.5506, implying a very robust dividend policy practice by JSE listed companies under the financial services sector. Agency theory argues that there is no need to pay dividends to directors, rather use institutional ownership (INST) as

substitutes. The findings are contrary to the Agency Theory, in that even though INST was used as substitute JSE listed companies carried on incentivising their directors. This meant that despite the use of INST, JSE listed financial services companies incurred agency costs.

According to Table 4.1, the formula applied to measure the institutional ownership (INST) was calculated as a percentage of shares held by other companies. As such, Table 4.1 demonstrates that on average, INST had a mean of 65.3102 ranging from min 43.4045 to max 49.9118. This implies a very high volume of business between local companies listed on the JSE. Notably, institutional shareholding was twice the number of share ownership by directors a good sign of company dominance over the directors' influence. However, the Agency Theory posits that INST can be used to discipline management, therefore, align their interest to that of the shareholders. As such, there is no need for incentivising directors to incur agency costs. The results are contrary to the Agency Theory's assertions as directors carried on being incentivised despite the use of INST as substitutes. Therefore, it can be inferred from the current results that dividends payments did not align the interest of managers to that of the shareholders.

In Table 4.1, cash flow (CASH) on average had a mean of 1.7812 ranging from min 0.0000 to max 118.918, implying positive availability of cash to management. Agency Theory has argued against the availability of cash to management because this contributes to agency problems. Consequently, these findings confirmed that JSE listed financial services companies do pay dividends; yet they experienced agency problems. Financial LEVERAGE was measured by total liabilities divided by total assets. On average, it had a mean of 26.319, ranging from min 219.1767 to max 49. 912. This implies a high volume of indebtedness of financial services companies listed on the JSE. The findings are in line with the Agency Theory's assertion that the use of debt mitigates agency costs. The Agency Theory advocates the use of debt as a management tool to reign in management to follow corporate governance principles because creditors monitor them. Even though the financial services companies listed on the JSE incurred agency costs in the form of dividends payments, it was, however, significantly reduced. Consistent with the current results is Thanatawee (2014) who found similar results between dividend payout and leverage.

Table 4.1 applied the formula return on assets to measure Profitability (PROF). From Table 4.1, descriptive statistic on average PROF had a mean of 4.48% ranging from min -1.771 to max 5.558. This implies improvement on profits from negative to a positive value (maximum 5.559). This meant that JSE listed companies can attract capital and foreign investors thus foreign investments had shown a maximum of 23.123. Furthermore, this meant that companies under the financial' services sector on the JSE can enter into dividend decision henceforth, staggering dividend payout ratio of 54.69%. The current findings demonstrated a positive relationship between dividends and profitability. This implied that as JSE companies under the financial' services sector showed improved results, they then pay dividends, and this is in tandem with the Agency Theory assertion.

Table 4.1 applied the formula net profit divided by shareholders' equity to measure Return on equity (ROE). On average, ROE had a mean of 17.83% ranging from min -15.5165 to max 33.3919. This implies an improvement from a negative to a positive (max 33.3919). This was a positive indicator for company performance of JSE listed companies under financial services sector. Once more, an observed negative min of -15.516 to some extent reinforced the assertion that dividend regime came to play only from the 01 April 2012. This demonstrates a consistent negative performance of equity prior the dividend regime. Furthermore, the results demonstrated a very robust dividend practice by JSE listed companies under the financial services sector.

Table 4.1 adopted the formula natural logarithm of book value of total assets to measure Companies (SIZE). From Table 4.1, it can be shown that on average, company SIZE had a mean of 15.4131, ranging from min 7.6014 to max 20.8610. This implies that a total asset value of 15.4131 determined the market capitalisation of max 20.8610 for the financial services companies listed on the JSE. The Agency Theory postulates that company SIZE influences the payment of dividends. This assertion can be confirmed through growth rate from min 7.6014 to max 20.8610. Therefore, a dividend payout ratio 54.69% as demonstrated by Table 4.1. Furthermore, the regression equation for the current study expected a positive sign for the company size variable as per the Agency Theory's assertion, and the current results concur with the Agency Theory's assertion.

Table 4.1.1 provides individual companies' descriptive statistics further demonstrating the central measures of tendency per company. The analysis of the individual companies as per Table 4.1.1 was conducted per individual variables: CASH FLOW, DIV, FOREIGN and INST ownership respectively. Individual companies had the highest mean of 14. 5955 on cash flow ranging from min 0.0000 to max 13.4663. This was consistent with the group descriptive statistics findings in that individual companies listed on the JSE demonstrated positive cash flows availability. This implied that JSE listed companies under the financial services sector are experiencing agency problems, despite the use of substitutes such as INST and the payment of dividends as incentives.

From Table 4.1.1, it is observed that quite a number of companies kept cash flow at 0.000000. This is in line with the Agency Theory that encourages companies to minimise cash availability, therefore, reducing agency cost (Jensen, 1986). However, it should be noted that on average, the majority of companies had a mean of 14.5955. This contradicted the Agency Theory, which had argued that the use of substitutes such as INST, dividends incentives and FOREIGN will reduce cash flow availability, thus, resolved agency problems. The standard deviation of 33.67819, meaning relatively large degree of dispersion between mean as per individual companies. Notable from the individual companies' descriptive statistics is the consistency with group companies' descriptive statistics in that cash flow range from min 0.0000 with slight variation on maximum of 3.8187. The findings on both individual and group descriptive statistics confirmed the availability of cash flows. Therefore, this further confirmed the existence of agency conflicts among the financials' services companies listed on the JSE.

Table 4.1.1: Individual companies' descriptive statistics of the variables 2005-2016

Descriptive Statistics for CASH FLOW

Categorized by values of COMPANY

Sample: 1 336

Included observations: 336

COMPANY	Mean	Max	Min.	Std. Dev.	Obs.
ADRENNA PROP GROUP LTD (ANA)	0.986688	1.763237	0.316427	0.457697	12
AFRICAN EQUITY EMPOWERMENT INVESTMENTS LTD (AEE)	1.107665	2.223065	0.000000	0.485118	12
AFRICAN OXYGEN LTD (AFX)	1.256711	4.024904	0.000000	0.947425	12
AFRICAN PHOENIX INVESTMENTS LTD (AXL)	3.818770	8.079504	0.000000	3.047520	12
BARLOWORLD LTD (BAW)	1.330709	1.656033	1.036088	0.187051	12
BONATLA PROPERTY HOLDINGS LTD (BNT)	14.59555	118.9189	0.132732	33.67819	12
BRIMSTONE INVESTMENT CORPORATION LTD (BRT)	0.992081	1.610203	0.000000	0.509333	12
CORONATION FUND MANAGERS LTD (CML)	1.516024	2.786885	0.000000	0.783279	12
ECSPONENT LTD (ECS)	1.262705	4.337281	0.164189	1.145023	12
EMIRA PROPERTY FUND LTD (EMI)	1.913229	13.32714	0.075704	3.825989	12
FAIRVEST PROPERTY HOLDINGS LTD (FVT)	1.644680	5.473607	0.000000	1.854069	12
FIRSTRAND LTD (FSR)	0.831775	2.494669	0.187655	0.594562	12
GROWTHPOINT PROPERTIES LTD (GRT)	1.420591	13.46634	0.000000	3.801399	12
HYPROP INVESTMENTS LTD (HYP)	0.779437	2.719274	0.000000	0.884251	12
INGENUITY PROPERTY INVESTMENTS LTD (ING)	3.013525	8.110781	0.545880	2.669109	12
INTU PROPERTIES PLC (ITU)	0.766263	1.555468	0.000000	0.482831	12
INVESTEC LTD (INL)	0.848861	1.103873	0.465140	0.252588	12
OCTODEC INVESTMENTS LTD (OCT)	0.156725	0.557978	0.000000	0.149489	12
OLD MUTUAL PLC (OML)	0.590054	2.279995	0.000000	0.720478	12
ORION REAL ESTATE LTD (ORE)	0.613696	1.565700	0.000000	0.427655	12
REDEFINE PROPERTIES LTD (RDF)	0.823422	2.226677	0.139600	0.641522	12
RESILIENT REIT LTD (RES)	0.726687	2.640226	0.025356	0.864754	12
SA CORPORATE REAL ESTATE FUND (SAC)	1.984584	5.444599	0.751841	1.526524	12
SANLAM LTD (SLM)	1.471214	2.416980	0.002914	0.885027	12
SASFIN HOLDINGS LTD (SFN)	0.981720	1.399322	0.133333	0.378018	12
SYCOM PROPERTY FUND (SYC)	0.912746	1.570677	0.443297	0.313079	12
TRADEHOLD LIMITED (TDH)	2.957986	7.640239	0.532500	2.197198	12
VUKILE PROPERTY FUND LTD (VKE)	0.570594	1.270817	0.159992	0.390989	12
All	1.781239	118.9189	0.000000	6.789046	336

Source: Researcher's own compilation, 2018.

Table 4.1.1 demonstrated individual companies' descriptive statistics for a cash flow variable. From Table 4.1.1 it is observed that almost all companies depicted positive CASH FLOWS. This implied existence of agency conflicts amongst financial services sector listed on the JSE. The regression equation expected negative sign for cash flow variable as per the Agency Theory assertion. However, findings from Table 4.1.1 demonstrated positive sign.

Table 4.1.2 provides individual companies' descriptive statistics reported through the central measures of tendency per company. This analysis of the individual companies as per the Table 4.1.2 was conducted for dependent variable dividend payout ratio (DIV). From Table 4.1.2, it is observed that individual companies had highest mean of 98.36% on dividend payments ranging from min -0.032258 to max 3.4712 as per Table 4.1.2. The results were in tandem with the findings from the group descriptive statistics. This emphatically confirmed that the JSE listed financial services companies at an individual level do pay dividends. This is consistent with Dividend Relevance Theory advanced by Graham and Dodd (1951), Lintner (1956) and Gordon (1959) and Easterbrook (1984). All these theorists argue that dividends do matter. This further confirmed that industry in practice follows a robust dividend payout strategy. Quite a number of companies had mean of 0.000000 on dividend payment ratio (DIV). This could be interpreted as the period before the application of dividend regime the 01 of April 2012. Furthermore, from Table 4.1.2, it is noted that when companies declared a mean of 0.000000, the min range is also 0.000000 for more often. The payments of dividends could be explained in various ways through the use of dividend theories, such as the Bird in the Hand Theory and Smoothed Dividend Theory, which are dividend theories adopted by various financial services companies on the JSE.

Table 4.1.2: Individual company descriptive statistics of the variables 2005-2016

Descriptive Statistics for DIV

Categorized by values of COMPANY

Sample: 1 336

Included observations: 336

COMPANY	Mean	Max	Min.	Std. Dev.	Obs.
ADRENNA PROP GROUP LTD (ANA)	0.955578	1.763237	0.316427	0.462803	12
AFRICAN EQUITY EMPOWERMENT INVESTMENTS LTD (AEE)	0.019968	0.106250	0.000000	0.037420	12
AFRICAN OXYGEN LTD (AFX)	0.747779	3.471248	0.407075	0.863318	12
AFRICAN PHOENIX INVESTMENTS LTD (AXL)	0.656032	1.095215	0.000000	0.310946	12
BARLOWORLD LTD (BAW)	0.384514	0.592568	0.244300	0.107360	12
BONATLA PROPERTY HOLDINGS LTD (BNT)	0.000000	0.000000	0.000000	0.000000	12
BRIMSTONE INVESTMENT CORPORATION LTD (BRT)	0.098011	0.700000	-0.727273	0.328708	12
CORONATION FUND MANAGERS LTD (CML)	0.690648	0.925603	0.000000	0.329895	12
ECSPONENT LTD (ECS)	0.000000	0.000000	0.000000	0.000000	12
EMIRA PROPERTY FUND LTD (EMI)	0.914155	1.410864	0.628466	0.254549	12
FAIRVEST PROPERTY HOLDINGS LTD (FVT)	0.075752	0.909028	0.000000	0.262414	12
FIRSTRAND LTD (FSR)	0.427324	0.481212	0.376881	0.027972	12
GROWTHPOINT PROPERTIES LTD (GRT)	0.246040	1.111404	-0.032258	0.454609	12
HYPROP INVESTMENTS LTD (HYP)	0.147200	0.917491	0.000000	0.344095	12
INGENUITY PROPERTY INVESTMENTS LTD (ING)	0.193348	0.650000	0.000000	0.288061	12
INTU PROPERTIES PLC (ITU)	0.098918	1.166327	-3.113636	1.560395	12
INVESTEC LTD (INL)	0.467534	0.634328	0.282132	0.102564	12
OCTODEC INVESTMENTS LTD (OCT)	-0.145105	0.784945	-3.500000	1.107056	12
OLD MUTUAL PLC (OML)	0.555038	1.923077	0.204918	0.452351	12
ORION REAL ESTATE LTD (ORE)	0.000000	0.000000	0.000000	0.000000	12
REDEFINE PROPERTIES LTD (RDF)	0.316431	1.614035	0.000000	0.534121	12
RESILIENT REIT LTD (RES)	0.101086	0.512976	0.000000	0.194972	12
SA CORPORATE REAL ESTATE FUND (SAC)	0.983627	1.291277	0.831303	0.126827	12
SANLAM LTD (SLM)	0.526025	1.315700	0.248067	0.279213	12
SASFIN HOLDINGS LTD (SFN)	0.371073	0.398515	0.334063	0.028657	12
SYCOM PROPERTY FUND (SYC)	0.954611	1.384276	0.576347	0.221982	12
TRADEHOLD LIMITED (TDH)	0.327635	1.666667	0.000000	0.607197	12
VUKILE PROPERTY FUND LTD (VKE)	0.327635	1.666667	0.000000	0.607197	12
All	0.372888	3.471248	-3.500000	0.577076	336

Source: Researcher's own compilation, 2018.

Table 4.1.2 demonstrates a number of financial services sector companies with min range of 0.000000 and -0.032258. This explains the period before the practice of dividend regime, 01 April 2012. Meanwhile, the company with the highest standard deviation standard deviation set at 1.560395. This demonstrates the degree of dispersion from the mean.

An individual company had highest mean of 21.09117 with some companies declaring a mean of 0.000000 on FOREIGN ranging from min 0.0000 to max 23.1228 as per the Table 4.1.3. The results were consistent with the findings from the group descriptive statistics mentioned above. In that, the mean demonstrated a positive sign, yet regression equation expected a negative sign. According to the Agency Theory, companies that employed FOREIGN are expected to reduce the dividend payout ratio (Jensen, 1986). As such, the Agency Theory postulates that foreign can be used as a discipline mechanism to align management interest to that of the shareholders. Furthermore, foreign can be used to force corporate governance principles. It is the cause for concern that in this regard, the JSE listed companies under financial services sector are experiencing agency costs despite the use of the FOREIGN as substitute mechanism. Based on the current findings on this variable, FOREIGN contradicts the Agency Theory's assertions that it resolves agency conflicts. It is demonstrated from Table 4.1.3 that the company with the highest standard deviation standard deviation set at 3.000921. This implied the degree of dispersion from the mean under the variable FOREIGN. Quite a number of companies are within a minimum range of 0.000000 and mean of 0.000000 as per the Table 4.1.3. From the following Tables: 4.1.1, 4.1.2 and 4.1.3, some companies declared mean of 0.000000 as well as min range of 0.000000. The best possible analysis for this occurrence can be attributed to that era before the adoption of dividend regime of 01 April 2012.

Table 4.1.3: Individual company descriptive statistics of the variables 2005-2016

Descriptive Statistics for FOREIGN

Categorized by values of COMPANY

Sample: 1 336

Included observations: 336

COMPANY	Mean	Max	Min.	Std. Dev.	Obs.
ADRENNA PROP GROUP LTD (ANA)	0.605200	0.605200	0.605200	0.000000	12
AFRICAN EQUITY EMPOWERMENT INVESTMENTS LTD (AEE)	0.905700	0.905700	0.905700	0.000000	12
AFRICAN OXYGEN LTD (AFX)	7.629575	8.071300	6.304400	0.799111	12
AFRICAN PHOENIX INVESTMENTS LTD (AXL)	5.445492	6.202200	5.376700	0.238301	12
BARLOWORLD LTD (BAW)	21.09117	23.12280	17.02790	3.000921	12
BONATLA PROPERTY HOLDINGS LTD (BNT)	0.000000	0.000000	0.000000	0.000000	12
BRIMSTONE INVESTMENT CORPORATION LTD (BRT)	0.637525	0.696100	0.461800	0.105966	12
CORONATION FUND MANAGERS LTD (CML)	13.42890	14.75650	9.446100	2.401719	12
ECSPONENT LTD (ECS)	0.018250	0.021900	0.000000	0.008525	12
EMIRA PROPERTY FUND LTD (EMI)	4.240350	4.993600	3.487100	0.786744	12
FAIRVEST PROPERTY HOLDINGS LTD (FVT)	0.000000	0.000000	0.000000	0.000000	12
FIRSTRAND LTD (FSR)	8.109600	8.109600	8.109600	0.000000	12
HYPROP INVESTMENTS LTD (HYP)	8.886100	8.886100	8.886100	0.000000	12
INGENUITY PROPERTY INVESTMENTS LTD (ING)	0.079600	0.079600	0.079600	0.000000	12
INTU PROPERTIES PLC (ITU)	0.021700	0.021700	0.021700	0.000000	12
INVESTEC LTD (INL)	10.08270	10.08270	10.08270	0.000000	12
OCTODEC INVESTMENTS LTD (OCT)	0.059300	0.059300	0.059300	0.000000	12
OLD MUTUAL PLC (OML)	1.435100	1.435100	1.435100	0.000000	12
ORION REAL ESTATE LTD (ORE)	0.000000	0.000000	0.000000	0.000000	12
REDEFINE PROPERTIES LTD (RDF)	6.609900	6.609900	6.609900	0.000000	12
RESILIENT REIT LTD (RES)	5.161300	5.161300	5.161300	0.000000	12
SA CORPORATE REAL ESTATE FUND (SAC)	3.213800	3.213800	3.213800	0.000000	12
SANLAM LTD (SLM)	10.12460	10.12460	10.12460	0.000000	12
SASFIN HOLDINGS LTD (SFN)	5.555200	5.555200	5.555200	0.000000	12
SYCOM PROPERTY FUND (SYC)	0.000000	0.000000	0.000000	0.000000	12
TRADEHOLD LIMITED (TDH)	0.027500	0.027500	0.027500	0.000000	12
VUKILE PROPERTY FUND LTD (VKE)	2.153400	2.153400	2.153400	0.000000	12
All	4.374352	23.12280	0.000000	5.103651	336

Source: Researcher's own compilation, 2018.

Table 4.1.3 revealed individual company with the highest standard deviation of 3.000921 and a mean of 21.09117. This demonstrated a poor degree of dispersion from mean This implies that few individual companies that adopted FOREIGN as a discipline mechanism.

Individual company had the highest mean of 99.49630 on INST ranging from minimum 43.4045 to maximum 86.4746 as per the Table 4.1.4. The results were in tandem with the findings from the group descriptive statistics. This implied a high-stake ownership by individual companies within financial services sector of the JSE listed companies. According to the Agency Theory, INST substitutes the need to payout dividends, therefore, monitors management. The consistent payment of dividends despite monitoring role played by INST contradicted the Agency Theory's assertion. However, the findings are consistent with de Wet and Mpinda (2013) who found that a dominant block shareholder control South African companies.

The individual company had the highest standard deviation of 5.703945. This implied the degree of dispersion from mean as per Table 4.1.4. This demonstrated a very robust practice of INST ownership principle by JSE listed financial services companies. However, it is not yielding the expected results because companies continued to pay dividends despite the use of INST ownership as substitutes. The regression equation for the current study had anticipated a negative sign for INST ownership as per the Agency Theory's assertion that the use of INST ownership negates the need to pay dividends. However, the current findings from table 4.1 to 4.1.4 demonstrated positive sign for the INST ownership variable and this is contrary to the dictates of the Agency Theory.

Table 4.1.4: Individual company descriptive statistics of the variables 2005-2016

Descriptive Statistics for INST

Categorized by values of COMPANY

Sample: 1 336

Included observations: 336

COMPANY	Mean	Max	Min.	Std. Dev.	Obs.
ADRENNA PROP GROUP LTD (ANA)	86.16625	86.47460	85.94600	0.272191	12
AFRICAN EQUITY EMPOWERMENT INVESTMENTS LTD (AEE)	82.88140	82.88140	82.88140	0.000000	12
AFRICAN OXYGEN LTD (AFX)	82.73113	86.32740	71.94230	6.505906	12
AFRICAN PHOENIX INVESTMENTS LTD (AXL)	49.64913	54.70620	49.18940	1.592563	12
BARLOWORLD LTD (BAW)	55.49303	56.99750	52.48410	2.222245	12
BONATLA PROPERTY HOLDINGS LTD (BNT)	64.08730	64.08730	64.08730	0.000000	12
BRIMSTONE INVESTMENT CORPORATION LTD (BRT)	73.37060	73.93730	73.18170	0.341733	12
CORONATION FUND MANAGERS LTD (CML)	45.09592	50.17020	43.40450	3.059903	12
ECSPONENT LTD (ECS)	56.63608	68.84750	54.19380	5.703945	12
EMIRA PROPERTY FUND LTD (EMI)	56.45335	57.61000	55.29670	1.208082	12
FAIRVEST PROPERTY HOLDINGS LTD (FVT)	71.83590	71.83590	71.83590	0.000000	12
FIRSTRAND LTD (FSR)	51.95020	51.95020	51.95020	0.000000	12
GROWTHPOINT PROPERTIES LTD (GRT)	57.12140	57.12140	57.12140	0.000000	12
HYPROP INVESTMENTS LTD (HYP)	54.71790	54.71790	54.71790	0.000000	12
INGENUITY PROPERTY INVESTMENTS LTD (ING)	54.91400	54.91400	54.91400	0.000000	12
INTU PROPERTIES PLC (ITU)	80.74450	80.74450	80.74450	0.000000	12
INVESTEC LTD (INL)	58.86810	58.86810	58.86810	0.000000	12
OCTODEC INVESTMENTS LTD (OCT)	45.73280	45.73280	45.73280	0.000000	12
OLD MUTUAL PLC (OML)	73.02430	73.02430	73.02430	0.000000	12
ORION REAL ESTATE LTD (ORE)	97.57200	97.57200	97.57200	0.000000	12
REDEFINE PROPERTIES LTD (RDF)	52.40720	52.40720	52.40720	0.000000	12
RESILIENT REIT LTD (RES)	47.75290	47.75290	47.75290	0.000000	12
SA CORPORATE REAL ESTATE FUND (SAC)	61.19060	61.19060	61.19060	0.000000	12
SANLAM LTD (SLM)	48.50640	48.50640	48.50640	0.000000	12
SASFIN HOLDINGS LTD (SFN)	73.47780	73.47780	73.47780	0.000000	12
SYCOM PROPERTY FUND (SYC)	99.49630	99.49630	99.49630	0.000000	12
TRADEHOLD LIMITED (TDH)	87.63210	87.63210	87.63210	0.000000	12
VUKILE PROPERTY FUND LTD (VKE)	59.17870	59.17870	59.17870	0.000000	12
All	65.31026	99.49630	43.40450	15.74453	336

Source: Researcher's own compilation, 2018.

From table 4.1.4, it is noted that the payment of dividends does confirm improved corporate governance of the financial services companies listed on the JSE.

4.3 CORRELATION COEFFICIENT ANALYSIS OF THE VARIABLES

In this subtopic, the study sought to respond to the main research question to investigate the relationship between dependent and independent variables. As such, correlation matrix was carried out as per the Table 4.2. Firstly, the researcher had to examine if there was Multicollinearity between dependent and independent variables of the chosen research model. If the correlation coefficient was close to positive one (positive correlation) and on the other hand, the correlation coefficient was close to negative one (negative correlation), that confirms the presence of Multicollinearity. However, after examining the correlation coefficients of the variables, no Multicollinearity were confirmed in the current study.

Table 4.2 demonstrates that the dividend payout ratio is positively correlated with FOREIGN, institutional ownership (INST), PROFITS and return on equity (ROE) variables. Essentially, the study sought to establish what type of relationship existed between dividend-agency relationship. This implied that the increased profitability (PROF) and return on equity (ROE) encouraged the JSE listed financial services companies to pay out dividends. Furthermore, both FOREIGN and institutional ownership (INST) are positively correlated to dividend payout ratio. The findings were contrary to the dictates of the Agency Theory that these variables should demonstrate negative correlation because they were used as substitutes. Agency theory argues that the use of FOREIGN and institutional ownership (INST) as substitutes negated the need to pay out dividends, therefore expects a negative correlation. In this regard, this relationship has failed to resolve agency costs. Therefore, it has failed to reduce agency problems. Consistent with these findings were Cavda and Aydin (2015), who also found positive correlation between dividend-agency relationship. However, Osegbue et al. (2014) found negative relationship between PROF and dividend payout. Such findings are at the heart of the “dividend puzzle” continuous payment of dividends when a company’ profits are declining (Black, 1976). According to the Smoothed Dividend Theory, a company that pursues smoothed dividend strategy might continuously pay dividends despite poor performance.

However, Dividend Relevant Theory argues that the payment of dividends compels companies to raise funds externally in order to finance new investments. Accordingly, the current results found a positive relationship between LEV, FOREIGN and INST, which concurs with Dividend Relevant Theory's assertion (Gordon, 1959). This implied that the payment of dividends forced JSE listed financial services companies into debt financing, therefore increased corporate monitoring mechanism by capital markets. However, Vo and Nguyen (2014) found negative relationship between dividend payout and LEV. Consistent with the current results were Jiraporn et al. (2011) and Osegbue et al. (2014) as well as Aydin and Cavdar (2015) who found positive relationship. Furthermore, positive relationship between dividend payout, LEV, FOREIGN and INST despite increased debt and the use of FOREIGN and INST as substitutes contradicted the Agency Theory' assertion. The findings confirmed the existence of agency conflicts. The current results have emphatically answered the main research question: What is the relationship between dividend policy and agency problems of financial services companies listed on the JSE? The relationship between the variables has been established, and therefore, leads to the second research question.

In light of the findings, the second research question has arisen, 'What role does the dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems?' According to the Agency Theory, the use of FOREIGN and institutional ownership (INST) as substitutes, leads to the substitution of dividends payments to directors. Ultimately, this resolves agency problems. In this regard, positive relationship between DIV, FOREIGN and INST as depicted in Table 4.2 meant that JSE financial services companies continued to experience agency costs despite the use of INST and foreign as substitutes. The results were contrary to the Agency Theory's assertions, that the use of the aforementioned variables reduce agency conflicts (Meckling & Jensen, 1976). However, Crane, Michenaud and Weston (2016) report that bigger institutional ownership stake significantly leads to increase in dividend payout. Crane et al.'s (2016), findings are in tandem with the current findings.

Meanwhile, dividend payout ratio demonstrated a negative correlation with DIRS, and company SIZE as per Table 4.2. The increased dividend payout ratio is consistent with the Agency Theory's assertion that companies should pay out high dividends in order to significantly reduce the cash availability to management. In line with these findings

was the research work by Vo and Nguyen (2014) and Haye (2014) who reported a negative relationship. To reduce the stake ownership by directors and increased dividends, consequently, reduces agency friction. Subsequently, directors become more independent, well aligned and less entrenched, therefore ensuring the principle of separation between ownership and control. The negative correlation between dividends and company size implied that when investment opportunities are winding down on JSE listed financial services companies, therefore, reduced market capitalisation, then dividends were paid out. In line with these findings Correia et al. (2015) found similar results. Furthermore, these empirical findings are consitent with Irrelevance Theory that dividends should be paid only when company' growth prospects are diminishing. In line with Irrelevance Theory, Baker and Weigand (2015) found that the declining companies' investment opportunities leads to the larger dividend payout. However, Ayman (2015) found a positive relationship between a company SIZE and dividend payout. This is consistent with relevance theory assertion that companies with large SIZE are less risky to face bankrupcy. As a result they can afford to payout more dividends relative to smaller companies.

One of the research questions sought to investigate the role played by this relationship in resolving agency problems. The literature review had revealed that dividend assumption theories argue that the payment of dividends resolves agency problems. From Table 4.2, it is observed that the negative correlation between dividends and directors confirmed the dividend assumption theories. This implied that reduced directors' ownership concentration led to the payment of dividends. Consequently, this leads to the reduction of the agency friction, thereby increasing shareholder wealth. Furthermore, the findings implied the reduction of agency problems of the JSE financial' services companies. Henceforth, the findings are consistent with the dictates of the relevance of dividend policy that payments of dividends reduce agency problems. Consequently, this answered the third research question: What influence does the factors that underpin both agency problems and dividend policy of financial services companies listed on the JSE have on the shareholder wealth maximisation?

Table 4.2: Group correlation analysis of the variables 2005-2016

Covariance Analysis: Spearman rank-order

Sample: 1 336

Included observations: 336

Correlation Probability	CASH	DIRS	DIV	FOREIGN	INST	LEV	PROF	ROE	SIZE
CASH	1.000000								

DIRS	-0.057647	1.000000							
	0.2921	-----							
DIV	0.069691	-0.113984	1.000000						
	0.2026	0.0368	-----						
FOREIGN	0.028799	0.285012	0.220504	1.000000					
	0.5989	0.0000	0.0000	-----					
INST	0.053296	-0.921995	0.035715	-0.540465	1.000000				
	0.3301	0.0000	0.5141	0.0000	-----				
	0.0268	0.0000	0.0000	0.0000	0.0000	-----			
PROF	0.161030	-0.045758	0.175188	0.009444	0.078725	-0.043287	1.000000		
	0.0031	0.4031	0.0013	0.8631	0.1499	0.4290	-----		
ROE	0.083962	0.120306	0.120045	0.199918	-0.121656	0.197919	0.639063	1.000000	
	0.1245	0.0275	0.0278	0.0002	0.0257	0.0003	0.0000	-----	
SIZE	-0.102464	0.250750	0.332453	0.730536	-0.457957	0.956464	-0.009485	0.185898	1.0000
	0.0606	0.0000	0.0000	0.0000	0.0000	0.0000	0.8625	0.0006	-----

Source: Researcher's own compilation, 2018.

The current findings revealed negative correlation between dividends and directors as per Table 4.2. The findings were consistent with the expectations of the current regression equation, which had expected negative relationship between the identified variables. The findings implied that directors are less entrenched, and their interest is aligned to that of the shareholders. As such, the shareholders' wealth is maximised in light of the improved corporate governance of JSE listed financial services companies. From Table 4.2, it is confirmed that the negative sign attributed to the DIRS ownership

upheld the principle of separation of ownership and control, therefore, strengthens governance of financial services companies listed on the JSE for the period 2005-2016.

4.4 PANEL UNIT ROOT TEST RESULTS

Initially, the study had to determine whether the data variables were having stationary properties before conducting estimation. In this regard, the use of OLS method could have produced the spurious regression, which may ultimately lead to statistical bias. To overcome the aforementioned statistical challenges, the study adopted panel unit root tests: ADF - Fisher Chi-square test, and PP - Fisher Chi-square test. De Wet and Mpinda (2013) faced with the similar statistical challenge adopted the panel unit root test method. The panel unit root test results are captured in Tables 4.4.1 to 4.4.9. The results demonstrate that some variables were non-stationary, which proved to be a potential problem for econometrics analysis for the current study. This could lead to spurious regressions, and problems on goodness of fit measures that are relatively high. Consequently, non-stationarity makes regression results rather challenging to evaluate. To address non-stationarity problem, the study adopted Co-integration analysis to allow non-stationary data to function such that spurious results are resolved. In addition, the study employs differencing a series successively until a stationary state was achieved (de Wet & Mpinda, 2013).

The following variables were confirmed to be stationary at level (no differencing): CASH, DIV, LEV, PROF, ROE, and company SIZE. The choice of ADF test is owing to its robust analytical ability to take cognisance of autocorrelations in residuals, in case they do exist, therefore includes additional lags of the first differenced variable (Baltagi, 2013). Table 4.2.1 demonstrated stationary time series. Hence, there was no need to difference the series for CASH variable. In this regard, the panel unit root test for the period 2005-2016 was carried out on each variable of the current study as demonstrated by Tables 4.4.1 until 4.4.9 respectively.

Table 4.2.1: CASH variable panel unit root test for the period 2005-2016

PANEL UNIT ROOT TEST (no differencing)

Sample: 1 336

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-12.6336	0.0000	28	307
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-8.48204	0.0000	28	307
ADF - Fisher Chi-square	163.620	0.0000	28	307
PP - Fisher Chi-square	163.223	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation. 2018.

Table 4.2.1 employed ADF - Fisher Chi-square test, and PP - Fisher Chi-square tests to determine the findings for the panel unit root test of CASH variable whether it is stationary or non-stationary. The rest of the variables were stationary after differencing of order one are: Table 4.2.2 D(DIRS), Table 4.2.4 D(FOREIGN) and Table 4.2.5 D(INST). In light of these test results, the analysis used the following stationary variables: CASH, DIV, LEV, PROF, ROE, company SIZE D(DIRS), D(FOREIGN) and D(INST) as per Tables 4.4.1 to 4.4.9 respectively. Furthermore, where computation was possible owing to sample size, the variables demonstrated cross-sectional dependence in the series. This meant that a correlation exists between the samples in the 28 financial services companies listed on the JSE for each of the variables used in the study. From tables 4.1 until 4.4.9, the findings demonstrated correlation further confirming the results of panel unit root tests as revealed in this chapter.

Table 4.2.2 provides findings for panel unit root test for D(DIRS) variable after it has been determined to be non-stationary; hence, the application of differencing technique to mitigate non-stationary problems.

Table 4.2.2: D(DIRS) variable panel unit root test for the period 2005-2016

After differencing

Sample: 1 336

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.08815	0.0000	4	40
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-4.57555	0.0000	4	40
ADF - Fisher Chi-square	31.7792	0.0001	4	40
PP - Fisher Chi-square	34.5063	0.0000	4	40

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation, 2018.

Table 4.2.2 depicts successive differencing of a series until stationary time series was achieved. It is rather impossible to achieve goodness of fit measure, if stationarity of time series is not achieved. As such, the current study had to run differencing of D(DIRS) until time series stationarity was achieved. The differencing technique was more relevant for the current study in light of data shortcomings such as missing data. Similarly, other studies faced with the similar statistical challenge adopted the same differencing technique (De Wet & Mpinda, 2013). As such, Im, Pesaran and Shin W-stat statistical test, and ADF - Fisher Chi-square statistical test have helped the current study to achieve robust ruslts. The results meant that the study avoided spurious regression results that could have produced statically bias findings for JSE listed financial institutions for the period 2005-2016.

Table 4.2.3 provides findings for panel unit root test of DIV variable after it has been determined to be stationary time series. As such, there was no differencing need for the stationary time series. Consequently, it can be observed that from Table 4.2.3 there were no statistical bias of the findings. The stationarity of DIV variable time series implied goodness of fit measure for the variable of JSE listed financial services companies for the period 2005-2016.

Table 4.2.3: DIV variable panel unit root test for the period 2005-2016

No differencing

Sample: 1 336

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-54.0947	0.0000	24	259
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-14.9592	0.0000	24	259
ADF - Fisher Chi-square	130.677	0.0000	24	259
PP - Fisher Chi-square	154.788	0.0000	24	264

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation 2018.

Table 4.2.3 exhibits results in which panel unit root test adopted time series modelling technique, therefore ensuring that stationarity of the DIV variable is achieved for the period 2005-2016. From Tables 4.1 and 4.2, it is observed that the stationarity of DIV variable was evident, therefore, ensuring robust findings for financial services companies listed on the JSE.

Table 4.2.4 provides findings for panel unit root test of D(FOREIGN) variable after it has been determined to be non-stationary time series. The statistical challenge with non-stationary time series is that regression findings could lead to spurious regression results, and ultimately statistical biasness. To mitigate this statistical challenge, we employed successive differencing of foreign variable until we achieve stationary time series.

Table 4.2.4: D(FOREIGN) variable panel unit root test for the period 2005-2016

After differencing

Sample: 1 336

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.85028	0.0000	3	30
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.76878	0.0001	3	30
ADF - Fisher Chi-square	22.8014	0.0009	3	30
PP - Fisher Chi-square	24.6771	0.0004	3	30

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation, 2018.

The study adopted Co-integration analysis to mitigate non-stationarity of FOREIGN variable. Table 4.2.4 exhibits the application of the Co-integration, which adopted Dickey-Fuller Fisher tests to avoid spurious results, and ultimately statistical biasness of JSE listed financial institutions variables for the period 2005-2016. This implied that FOREIGN variable eventually achieved stationary time series as per Table 4.2.4. Chelimo and Kiprop (2017), faced with the similar statistical challenge, applied panel unit root tests of Dickey-Fuller fisher test to avoid spurious findings and statistical bias results.

Table 4.2.5 exhibits findings for the panel unit root test of D(INST) variable after it has been determined to be non-stationary time series. Several statistical tests inclusive of Im, Pesaran and Shin W-stat test, ADF - Fisher Chi-square test, and PP - Fisher Chi-square test was carried out and all tests assume asymptotic normality to avoid spurious results.

Table 4.2.5: D(INST) variable panel unit root test for the period 2005-2016

After differencing

Sample: 1 336

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.08815	0.0000	4	40
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-4.57555	0.0000	4	40
ADF - Fisher Chi-square	31.7792	0.0001	4	40
PP - Fisher Chi-square	34.5063	0.0000	4	40

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation, 2018.

From Tables 4.4.2 D(DIRS), 4.4.4 D(FOREIGN), and 4.4.5 D(INST), the findings cannot be generalised outside the focus sector and period of 2005-2016. This implied that the findings can be generalised within the stated focus period (2005-2016) of the financial services sector. This is the case with all non-stationarity time series variables for the JSE listed financial services companies.

Table 4.2.6 exhibits findings for the panel unit root test of LEV variable after it has been determined to be stationary time series at level (no differencing). The key feature of stationary time series analysis method is that statistical properties do not change over time. This key feature became more relevant for the current study in light of its length period 2005-2016; hence, ensuring consistent findings for the financial services companies listed on the JSE.

Table 5.2.6: LEV variable panel unit root test for the period 2005-2016

No differencing

Sample: 1 336

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-28.2179	0.0000	28	300
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-10.4788	0.0000	28	300
ADF - Fisher Chi-square	134.648	0.0000	28	300
PP - Fisher Chi-square	146.181	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation, 2018.

Table 4.2.6 provides findings for the panel unit root test of LEV variable after it has been determined to be stationary time series. The stationarity of LEV variable implied its goodness fit test which was further demonstrated by findings in Table 4.2 group correlation analysis as well as Table 4.1. All these results avoided spurious regression and statistical biasness.

Table 4.2.7 exhibits findings for the panel unit root test of PROF variable after it has been determined to be stationary time series at level (no differencing). Brooks (2014) refers to stationary time series as constant mean, variance and auto covariance of time series data for each given lag; in this regard of financial services companies listed on the JSE. Table 4.2.7 exhibits tests results for stationary technique used to determine stationary time series for PROF variable panel unit root test for the period 2005-2016. The statistical technique tests applied in the Table 4.2.7: Levin, Lin and Chu test; Im, Pesaran and Shin W-start test; ADF - Fisher Chi-square panel unit root tests. The aforementioned statistical tests help to determine the order of integration of the variables for the purpose of running regression analyses for the current study within the timeframe 2005-2016.

Table 4.2.7: PROF variable panel unit root test for the period 2005-2016

No differencing

Sample: 1 336

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-106.844	0.0000	28	300
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-25.7393	0.0000	28	300
ADF - Fisher Chi-square	200.020	0.0000	28	300
PP - Fisher Chi-square	188.810	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation, 2018

From Table 4.2.7, it is noted that PROF variable demonstrated stationarity of time series at level (no differencing) for financial services companies listed on the JSE. This implied that statistical measures as well as goodness of fit measures are not weigh too high, which could have made the evaluation of regression equation impossible or produce spurious and statistical bias results.

At first, data had to be tested and it was confirmed to be stationary time series, eliminating the need to perform differencing. Table 4.2.8 provides findings for the panel unit root test of ROE variable after it has been determined to be stationary time series at level (no differencing). One of the differentiating characteristics of stationary as opposed to non-stationary is that it can absorb shocks temporarily, and over time their impact will be eradicated as the time series return to their long run mean values. From Tables 4.4.6 to 4.4.9, the probability of 0.0000 can be observed, which implied stationarity of the identified variables in the mentioned tables. Consequently, this implied robust finding as demonstrated through Tables 4.1 to 4.4.9 of financial services companies listed on the JSE.

Table 4.2.8: ROE variable panel unit root test for the period 2005-2016

No differencing

Sample: 1 336

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-194.310	0.0000	28	299
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-39.8195	0.0000	28	299
ADF - Fisher Chi-square	186.530	0.0000	28	299
PP - Fisher Chi-square	215.852	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation, 2018

From Table 4.2.8 panel unit root test exhibited the application of Im, Pesaran and Shin W-stat test, ADF - Fisher Chi-square test, and PP - Fisher Chi-square tests owing to statistical challenge of insufficient data experienced by the financial services companies listed on the JSE. Furthermore, the aforementioned tests improve the robustness of the findings. Therefore, it resonates with the current study.

From Table 4.2.9, panel unit root test for company SIZE exhibits stationary time series at level. Therefore, this implied no need to conduct differencing. Furthermore, the company SIZE variable demonstrated that there is Cross-sectional dependence in the time series which meant that there is a correlation between the samples in the 28 financial services companies for each of the variables adopted. From Table 4.2.9 applied Levin, Lin and Chu panel unit root tests, this test allows for fixed effects and heterogeneous serially correlated errors thus, avoid spurious results (Baltagi, 2013). Furthermore, this test ensures the reliability and eliminates statistical bias of the results for JSE listed financial institutions for the period 2005-2016.

Table 4.2.9: Company SIZE variable panel unit root test for the period 2005-2016

No differencing

Sample: 1 336

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-11.4947	0.0000	28	306
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-7.74948	0.0000	28	306
ADF - Fisher Chi-square	159.422	0.0000	28	306
PP - Fisher Chi-square	177.595	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's own compilation, 2018.

From Table 4.2.9, it can be noted that the panel unit root test outcomes were confirmed through Tables 4.1 to 4.2.9 respectively. Panel unit root tests in this regard applied Im, Pesaran and Shin W-stat test, ADF - Fisher Chi-square test, and PP - Fisher Chi-square tests to ensure robustness of the findings to achieve correlation between the identified samples.

4.5 ANALYTICAL PROCEDURE

Unbalanced panel data meant that some observations are missing. Therefore, not all cross-sections were observed in all time periods. This was owing to JSE financial services companies declaring zero dividend prior the implimentation of dividend regime before 2012 in South Africa. To mitigate the possible statistical bias owing to unbalanced panel data, the study adopted fixed effect cross-sectional regression model for the robustness of the findings. As such, fixed effect cross-sectional regression model was employed to ensure statistical validation of the findings. Furthermore, the correlation that exists between explanatory and dependant variables makes fixed effect cross-sectional regression model the best possible choice. In light of the unbalanced panel data, the choice of random effect estimation model was not statistically feasible.

The dividend policy and the Agency Theory assertions are substantially confirmed or rejected through Panel Estimated Generalised Least Square (EGLS) regression model. The panel EGLS demonstrates robust statistical findings when compared with two stage least square (2SLS) and GMM. As such, on assumptions of statistical unbias results that the model is free of autocorrelation, multicollinearity and heteroscedasticity. Therefore, this model is more relevant for the current study. Furthermore, panel EGLS regression results demonstrated consistence, precision and efficiency of estimates in the presence of simultaneity statistical bias. Therefore, cross section weights estimate a feasible panel EGLS regression model specification assuming the presence of cross-section heteroscedasticity.

To determine the presence of autocorrelation and independence of errors, Durbin-Watson (DW) statistic test was adopted for each variable. The Durbin-Watson value of 1.7128 is within overall value range between -2 to 2 DW values, which confirmed the absence of autocorrelation (Gozali, 2013). The DW value of 1.7128 demonstrates the independence of errors from one another in the regression model within the period of the study. Furthermore, these regression results confirmed that the serial correlation of errors is correlated.

The current study employed Seemingly Unrelated Regression (SUR) method to mitigate heteroscedasticity and general correlation of observations within a cross-section regression model (Vo & Nguyen, 2014). Various panel data statistical techniques and modelling technique such as differencing were used to mitigate statistical bias of heteroscedasticity. To mitigate further statistically biasness owing to heteroscedasticity and autocorrelation, the current study employed White test cross-section for robustness of the findings. The White test cross-section method assumes that the errors are contemporaneously (cross-sectional) correlated. Therefore, this estimator is robust to cross-equation (contemporaneous) correlation and heteroscedasticity. White test method assumes that the errors for a cross-section are heteroskedastic and serially correlated. Consequently, the estimator is designed to accommodate arbitrary heteroscedasticity and within cross-section serial correlation.

4.6 REGRESSION RESULTS AND DISCUSSION

A multi linear regression model was undertaken, using EViews statistical package to determine the relationship between dividend-agency relationship of financial services companies listed on the JSE.

$$\mathbf{DIV_{it}} = \beta_o - \beta_1 INST_{i-t} - \beta_2 DIRS_{i-t} + \beta_3 SIZE_{i-t} - \beta_4 FOREIGN_{i-t} + \beta_5 LEV_{i-t} + \beta_6 ROE_{i-t} + \beta_7 PROF_{i-t} - \beta_8 CASH_{i-t} + \varepsilon_{i-t}$$

Table 4.2.10 exhibits panel EGLS (Cross-section weights) regression model. According to Table 4.2.10, the model is as follows: The overall effect of the explanatory variables is able to explain the dividend payout ratio up to 89% as demonstrated by adjusted R^2 and the remaining 11% is controlled by other factors outside the listed variables as per Table 4.2.10. Similarly, Table 4.2.10 exhibits the F-statistic value of 75.6014, which implies that the model is well fitted and overall statistically significant at P (F-statistic) value 0.0000 of the explanatory variables on the dividend payout ratio. Table 4.2.10 depicts Durbin-Watson value of 1.7128 indicates a tolerable serial correction within the period 2005-2016 of the study. The findings are consistent with Dividend Relevance Theory advanced by Berle and Means (1932), Lintner (1956), Gordon (1959), and Easterbrook (1984), who report a positive relationship between dividends and listed explanatory variables.

Table 4.2.10: Fixed Effect

Method: Panel EGLS (Cross-section weights) regression model 2005-2016

Sample: 1 336 and Dependent Variable: DIV

Cross-sections included: 28;

Total panel (balanced) observations: 308; Linear estimation after one-step weighting matrix

White cross-section standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.078016	0.145774	0.535183	0.5930
CASH	-0.000247	0.000157	-1.575369	0.1163
D(DIRS)	-0.156975	0.057562	-2.727058	0.0068
D(FOREIGN)	-0.157515	0.062589	-2.516637	0.0124
D(INST)	-0.162588	0.059789	-2.719350	0.0070
LEV	2.79E-09	4.79E-10	5.816952	0.0000
PROF	0.020660	0.009262	2.230682	0.0265
ROE	-0.001124	0.001452	-0.773588	0.4398
SIZE	0.018167	0.009531	1.906082	0.0577
	Effects Specification			
Cross-section fixed (dummy variables)				
	Weighted Statistics			
R-squared	0.906787	Mean dependent var		1.352367
Adjusted R-squared	0.894793	S.D. dependent var		2.594589
S.E. of regression	0.455023	Sum squared resid		56.31651
F-statistic	75.60142	Durbin-Watson stat		1.712848
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.338770	Mean dependent var		0.367369
Sum squared resid	64.12816	Durbin-Watson stat		1.884464

Source: Researcher's own compilation, 2018.

It can be observed from Table 4.2.10 that cash flow **(CASH)** has negative sign and statistically insignificant association with dividend payout ratio. The regression results reveal that the coefficient of the relationship between dividend payout and cash flow is -0.000247 CASH as per Table 4.2.10. This implies that for every 1% increase of the

cash flow, dividend payout will decrease by 0.000247 units. Furthermore, Table 4.2.10 depicts that the T-test is -1.5753 with insignificant level of 0.1163. The findings are consistent with the Agency Theory arguments that the reduction of cash flow leads to high dividends payout to shareholders. Consequently, this reduces misappropriation of funds by management for their own benefits (Jensen & Meckling, 1976) to ultimately resolve agency costs. In line with these findings were Osegbue, Ifurueze, and Ifurueze (2014), Ringborg and Dai (2016) all reported of negative relationship between dividend payout ratio and cash flow in Nigeria and Sweden respectively. Similarly, Harada and Nguyen (2011) confirm a negative relationship between the cash flow and dividend payout. However, Vo and Nguyen (2014) found contradicting results with statistically positive relationship.

What role does the dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems?

The main research question sought to determine the relationship between dividend payout ratio and explanatory variables. Cash flow (CASH) has partly answered the research question by demonstrating a negative and statistically insignificant relationship between dividend payout ratio and cash flow. Therefore, cash flow ultimately resolves agency costs of the financial services sector listed on the JSE between the period 2005-2016 as per Table 4.2.10.

Table 4.2.10 demonstrates that **D(DIRS)** has negative and statistically significant relationship with dividend payout ratio. The regression results reveal that the coefficient of the relationship between dividend payout and D (DIRS) is -0.156975 D (DIRS) as per Table 4.2.10. This implies that for every 1% increase of the D (DIRS), dividend payout will decrease by 15%. From Table 4.2.10, it can be observed that the T-test is -2.7270 with significant level of 0.0068. The findings resonate with the genesis of the Agency Theory, that is, separation between control and ownership. Therefore, the higher the percentage of share ownership by directors in the company the lower will be the dividend payout ratio. A lower dividend payout meant agency costs reduction. The negative relationship of D (DIRS) will ensure the independence of the directors to become less conflicted. Furthermore, this meant that D (DIRS) can be used as substitutes for dividend payout an assertion advanced by the Agency Theory (Jensen & Meckling, 1976). The findings of this study are consistent with those of

Hommel (2011), Houcine and Ajina (2013), Vo and Nguyen (2014), Haye (2014) and Aydin and Cavdar (2015), who found that there is significant and negative relationship between dividend payout and managerial ownership. However, Huda and Abdullah (2014), Jojadeh and Pouraghajan (2014), Vo and Nguyen (2014), and Uwalomwa, Olamide and Francis (2015) reportedly found statistically and positive relationship between managerial ownership and dividend payout.

Table 4.2.10 depicts that **D (FOREIGN)** has negative and statistically significant association with dividend payout ratio. The regression results reveal that the coefficient of the relationship between dividend payout and D (FOREIGN) is -0.157515 D (FOREIGN) as per Table 4.2.10. This implies that for every 1% increase of the D (FOREIGN), dividend payout will decrease by 15%. From Table 4.2.10, it can be observed that the T-test is -2.5166 with significant level of 0.0124. The findings implied that foreign can be used as a substitute mechanism for dividend payout to instil discipline management and reduce agency costs. The findings are in line with the Agency Theory that foreign ownership can be used as substitutes mechanism to reduce agency costs (Jensen & Meckling, 1976).

Similarly, Lam, Sami and Zhou (2012) concur with the current findings for a negative relationship. However, Aydin and Cavdar (2015), Dandago, Farouk and Muhibudeen (2015) found contrary results that there is a statistically positive relationship between dividend payout and foreign. Furthermore, contrary findings by Bogonko (2013) and Vinh (2014) indicate that there is no statistically relationship between foreign ownership and dividend payout.

According to Table 4.2.10 **D (INST)** has negative and statistically significant relationship with dividend payout ratio. The regression results reveal that the coefficient of the relationship between dividend payout and D (INST) is -0.162588 D (INST) as per Table 4.2.10. This implies that for every 1% increase of the D (INST), dividend payout will decrease by 16%. Table 4.2.10 demonstrates that the T-test is -2.7193 with significant level of 0.0070. The results are in line with the Agency Theory's assertion that you can use D (INST) as a discipline mechanism, therefore, substitutes dividend payout (Jensen & Meckling, 1976). The JSE financial services sector demonstrates through the current results that the negative relationship reduces agency problems. Furthermore, the results emphatically reinforce assertion of

Dividend Irrelevance Theory canvased by MM (1961). The results are consistent with Berezinets, Ilina and Alekseeva (2014); Aydin and Cavdar (2015), who report on negative and statistically significant relationship. Similarly, Fairchild, Guney and Thanatawee (2014) found similar results that companies with higher ownership concentration are likely to pay less dividends. However, contrary findings by Daradkah and Ajlouni (2013), Thanatawee (2013), Thanatawee (2014) and Dandago et al. (2015) found statistically positive and significant results. The contrary results are in line with Dividend Relevance Theory's assertion advanced by Lintner (1956) and Gordon (1959). According to this Dividend Relevance Theory, the financial compensation of management leads to high dividend payout, and this is confirmed by the current results.

What is the relationship between dividend policy and agency problems of financial services companies listed on the JSE?

The main research question was mainly focused on determining the nature of the relationship between dividend policy and agency problems of financial services companies listed on the JSE. The results have since revealed that CASH FLOW, INSTITUTIONAL OWNERSHIP, FOREIGN OWNERSHIP, and DIRS (share ownership by directors) have negative and statistically insignificant relationship with dividend payout ratio. To resolve the challenges of agency problems, the Agency Theory has advocated the use of the aforementioned explanatory variables as substitutes mechanism Jensen and Meckling (1976) and Easterbrook (1984). The companies listed on the JSE under the financial services sector, through current results demonstrated largely affirmative results to the Agency Theory's assertion. The presence of institutional ownership resolves the asymmetry information problems, therefore, reduce the need to pay dividends. Black (1976) once pondered on the industry practice of consistently paying dividends. Apparently, the industry continued to pay dividends when faced with asymmetry information. However, the current results demonstrate that the Agency Theory has partly provided relief to Black (1976) dividend puzzle. In this regard, this is achieved by offering CASH FLOW, INSTITUTIONAL OWNERSHIP, FOREIGN OWNERSHIP and DIRS (share ownership by directors) as substitute mechanisms to dividend policy. Furthermore, Signalling Theory argues for the use of dividend payout to signal companies' prospects to shareholders.

Consequently, the Agency Theory' proposition to use aforementioned explanatory variables as substitutes mechanisms, reduces the need for Signalling Theory, in other words the consistent payment of dividends.

Table 4.2.10 reveals that **LEV** has positive and statistically significant relationship with dividend payout ratio. The regression results reveal that the coefficient of the relationship between dividend payout and LEV is 2.79E-09 LEV as per Table 4.2.10. This implies that for every 1% increase of the LEV, dividend payout will increase by 2.79%. From Table 4.2.10, it can be observed that the T-test is 5.816952 with significant level of 0.0000. The results are consistent with Easterbrook's (1984) assertion that increase in dividend payout reduces cash flow, therefore the need to raise funding externally for future investments. This reduces CASH availability to executive directors and minimises chances of expropriation of CASH for personal benefits. In line with results is Osegbue et al. (2014) who report positive and significant relationship between leverage and dividend payout. The results are contrary to what was anticipated in light of the Agency Theory assertion. Consequently, positive relationship between leverage and dividend payout meant that JSE listed financial services companies incur transaction costs. However, Thanatawee (2014) found contrary results of a negative relationship between leverage and dividend payout. The results concur with the Agency Theory's assertion that you can use leverage as a substitute mechanism for dividend payout (Jensen & Meckling, 1976). Accordingly, the company will be funded externally, such arrangement draws in external disciplinary market mechanism to align management interests to that of the shareholders at significantly reduced agency costs. The financial risk that comes along with this arrangement is the bankruptcy of the company. A company with negative balance in its financial statements might not be attractive to the investors, creditors and could lose some employees. Furthermore, negative relationship meant that companies reduce transaction costs (Jensen & Meckling, 1976).

From Table 4.2.10, it is depicted that PROF has positive and statistically significant relationship with dividend payout ratio. The regression results reveal that the coefficient of the relationship between dividend payout and PROF is 0.02066 PROF as per Table 4.2.10. This implies that for every 1% increase of the PROF, dividend payout will increase by 0.02%. Table 4.2.10 demonstrates that the T-test is 2.2306

with significant level of 0.0265. This implied that an increase from the profits influences the company to pay dividends. The results are in line with Dividend Relevance Theory's arguments that dividends should be paid from profits (Gordon, 1959). Accordingly, Lam et al. (2012), Houcine and Ajina (2013), Thanatawee (2013), Thanatawee (2014), Dandago et al. (2015) report positive relationship between dividend and ROA.

However, Ullah et al. (2016) found contrary results of negative relationship between dividend and ROA. In this regard the results indicate diminishing investments prospects for the company. According to Lintner (1956), this marks an opportune time to pay dividends to shareholders. The controversy caused by dividend puzzle (Black, 1976), it is partly resolved. It is crystal clear that companies adopt different strategies in resolving agency problems. Against this backdrop, the payment of dividends manifests itself in various ways as demonstrated by the current results.

Table 4.2.10 demonstrates that ROE has negative and statistically insignificant relationship with dividend payout ratio. The regression results reveal that the coefficient of the relationship between dividend payout and ROE is -0.001124 ROE as per Table 4.2.10. This implies that for every 1% increase of the ROE, dividend payout will decrease by 0.11%. From Table 4.2.10 it can be observed that the T-test is -0.7735 with insignificant level of 0.4398. The findings are contrary to the Dividend Relevance Theory espoused by Lintner (1956) and Gordon (1959) that an increase in earnings leads to higher dividend payments. According to the Signalling Theory, the payments of dividends send a positive message to shareholders (Easterbrook, 1984). Meanwhile, the results concur with the Agency Theory that you can use ROE as substitutes for dividend payout (Jensen & Meckling, 1976). Furthermore, findings give credence to the dividend Irrelevance Theory MM (1961), that a company must pay dividends from retained earnings. Companies that demonstrate good investment prospects ultimately have a need for financing. According to dividend Irrelevance Theory, (MM, 1958, 1961) such companies should be financed from their retained earnings, therefore less need to pay dividends. Consequently, the use of retained earnings substantively reduces agency problems. Consistent with the results was Aydin and Cavdar (2015) who confirmed statistically significant and negative relationship between ROE and dividend payout. Accordingly, managers often take

advantage of the companies' investment prospects and pay higher dividends. This forms part of the investment strategy owing to lower bankruptcy risks and lucrative investment opportunities to financial markets signalled by the dividend payout.

Table 4.2.10 depicts that company SIZE has positive and statistically significant relationship with dividend payout ratio. The regression results reveal that the coefficient of the relationship between dividend payout and company SIZE is 0.018167 company SIZE as per Table 4.2.10. This implies that for every 1% increase of the company SIZE, dividend payout will increase by 0.018 units. Table 4.2.10 exhibits that the T-test is 1.9060 with significant level of 0.0577. This implied that company size determines the company dividend decision. In this regard, this relationship increases the shareholder wealth maximisation. The findings were consistent with Warrad, Abed, Khriasat and Al-Shiekh (2012) and Thanatawee (2013) who confirmed positive relationship between company size and dividend payout.

What influence do the factors that underpin both agency problems and dividend policy of financial services companies listed on the JSE have on the shareholder wealth maximisation?

The factors that underpin both dividend policy and agency problems of companies listed on the JSE are company size, total assets, percentage shareholder ownership by companies, and management. The company SIZE demonstrated positive and statistically significant relationship with a positive influence on shareholder wealth maximisation as per Table 4.2. The positive influence that leads to the payment of dividends justifies Bird in the Hand Theory assertion, that current dividends are worth more than future capital prospects, which are still subject to market risk (MM, 1961). Meanwhile DIRS, INST and ROE revealed negative relationship with dividend payout as per Table 4.2. This implies that dividends were paid out despite negative relationship with other explanatory variables. This relationship gives credence to Black (1976) "dividend puzzle" critic, why companies consistently pay dividends despite their poor performance. However, the current results demonstrated that JSE listed financial services companies followed Smoothed Dividend Theory, and continued to pay dividends despite negative relationship. In this regard, dividends are used as part of signalling effect theory to resolve asymmetry information (Thanatawee, 2013). The current findings from Tables 4.1, 4.2 and 4.5.1 exhibited that companies pursue

different dividend strategies offered by dividend policy and the Agency Theory to reduce agency conflict.

Table 4.2.10 demonstrates that company SIZE has positive and significant relationship with dividend payout ratio. Meanwhile, company SIZE on average had dividend payout ratio (DIV) 54.69% as per Table 4.1. This implied that positive and statistically significant relationship had positive influence on the dividend payments for the companies listed on the JSE financial services sector. The payment of dividends meant shareholders' wealth maximisation. As such, this addressed the third research question on the influence of company SIZE in relation to the shareholder wealth maximisation. Table 4.1 reports that ROE had a mean of 17.83% on average. From Table 4.2, it can be observed that ROE had positive relationship with dividend payout. The influence of positive relationship between ROE and dividend payout led to improvement in dividend payments by JSE listed financial services companies. The payment of dividends increases shareholder wealth maximisation as demonstrated in this subtopic, therefore, research question resolved.

4.7 CHAPTER SUMMARY

This chapter tested research questions and objectives as demonstrated in Tables 4.1, 4.2 and 4.5.1. In addition, this chapter determined the relationship between dividend-agency relationship by employing various statistical techniques. The findings demonstrated an overall positive relationship between dividend-agency relationship in Table 4.2. Quite noticeable, the findings further revealed complementary relationship between dividend policy and the Agency Theory in resolving dividend-agency relationship. According to the findings, a significant number of JSE listed companies pay dividends. This is in tandem with Piketty (2014) who reports similar results, confirming that JSE listed financial services companies pay dividends yet they continuously experience agency problems. Contrary, to the findings is the dividend the Agency Theory's assertion that, dividends payments resolve agency problems (Rozeff, 1982; Easterbrook, 1984; Jensen, 1986). However, the confirmation of dividends payment by JSE listed companies meant that JSE listed financial institutions are experiencing agency problems.

The results were explained through assumption theories such as Clientele Effect Theory, Smoothed Dividend Theory, a Bird in the Hand Theory and Information Asymmetry Theory. The co-existence of agency problems despite continuous payment of dividends by JSE listed financial services companies was explained through Smoothed Dividend Theory. The study sought to determine the extent to which dividend-agency relationship of companies listed on the JSE play in resolving agency problems. The current study recorded an overall positive and significant dividend-agency relationship of JSE listed financial services companies. This was to respond to the research question that sought to determine the extent to which dividend-agency relationship reconciles to achieve the goal of maximising shareholder wealth of financial services companies listed on the JSE. The study found positive and significant relationship between dividend payout and JSE listed company SIZE. This implied that company SIZE impacts positively on JSE listed companies, and therefore, achieve the goal of maximising sharelder wealth.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 INTRODUCTION

The previous chapter provided empirical evidence of dividend-agency relationship of financial services sector of companies listed on the JSE. Quite notably from the results is the alignment of (MM, 1958) Irrelevance Theory with the Agency Theory's (Jensen & Meckling, 1976) assertion on dividend irrelevance. Notwithstanding contradictory results, the results exhibited overall positive and significant dividend-agency relationship of JSE listed financial services companies. As such, the results confirmed the Agency Theory's assertion that ownership structure can be used to substitute dividends thereby reduce agency problems (Easterbrook, 1984). The results demonstrate that a significant number of JSE listed financial services companies adopted ownership structure and thereby significantly reduce agency problems.

Accordingly, the reduction of agency problems leads to the maximisation of shareholder wealth as per results. Therefore, this talks directly to secondary research objectives. In determining the extent and significance of dividend-agency relationship in resolving agency problems, the previous chapter adopted various panel data techniques, such as Durbin Watson (DW) statistical tests, Seemingly Unrelated Regression (SUR), White tests, and Heteroscedasticity. The primary objective of this study was to determine the relationship between dividend policy and agency problems of financial services companies listed on the JSE, the previous chapter sought to determine the nature of the relationship through aforementioned statistical tests.

To successfully carry out this key research object, the study had to adopt the following secondary research objectives:

- To determine the relationship between dividend policy and agency problems of financial services companies listed on the JSE.
- To determine the extent to which dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems.

- To determine the extent to which dividend-agency relationship reconciles to achieve the goal of maximising shareholder wealth of financial services companies listed on the JSE.

To carry out this key research object, the study focused on the financial services sector of the JSE listed financial services companies covering 2005-2016 period. The choice of the financial services sector was informed by the global financial crisis of 2007 to 2009 within the similar sector in America. Furthermore, this period was informed by the promulgation of dividend legislation in South Africa, which was adopted from 01 April 2012. The rationale was to determine trends prior and beyond the implemantation of dividend regime within financial' services sector of JSE listed companies. Therefore, the researcher had identified this sector to be a research gap locally. Theoretical framework provided the context within which the empirical findings from the previous and current studies were accepted or rejected.

5.2 SUMMARY: THE FOLLOWING SECTION PROVIDES SUMMARY OVERVIEW OF THE PREVIOUS CHAPTERS

Chapter one (1) in this study the researcher highlighted the core theories together with sub-theories that underscore the research questions and objectives. Three types of agency problems articulated the Agency Theory approach on agency problems: firstly, between managers (agents) and owners (shareholders) (Jensen & Meckling, 1976). The second type of agency conflict arose between minor shareholders and block shareholders (Gilson & Gordon, 2003; Panda & Leepsa, 2017). The minority shareholders take leave from legal regime to protect their wealth interest. The third type of agency problem occurs between shareholders and creditors. This agency conflict is borne when shareholders commit riskier investment decisions against the will of the creditors. The principle of separation of ownership from control gave birth to all these types of agency problems aforementioned in chapter one, thus set in motion the evolution of corporate governance through the Agency Theory perspective. To mitigate challenges of agency problems, the Agency Theory advocated the use of corporate governance mechanisms such as foreign ownership, institutional ownership and directors' ownership. Meanwhile, (MM, 1958; 1961) had put forward dividend irrelevance and residual theories as means to alleviate the agency problems. In line

with this school of thought, Graham and Dodd (1951); Lintner (1956) and Gordon (1959) argue for dividend relevance theories together with its sub-theories as mechanisms to resolve agency problems.

The literature review had found that JSE listed financial services companies continue to experience agency problems despite adoption of dividend decision (Piketty, 2014). In light of this finding, the current study sought to determine dividend-agency relationship, and this formed the core of the research problem. Furthermore, despite the assertion by the Agency Theory that executive compensation resolves agency problems, the current study took a view that executive compensation form part of agency problems (Bebchuck & Friend, 2003).

This chapter further merged background and introduction. The key theoretical concepts were defined. The research objectives and questions were briefly outlined. The problem statement identified through literature review informed the research gap. An overview of the research methodology was developed. This chapter further outlined the significance of the current study and the context thereof. On the context of the study, a brief historical account of labour market, which partly contributed to the poverty and inequality was identified. An emerging and local market review of literature on dividend-agency relationship was conducted. Notably, the study did not contrast the schools of thought, rather sought to investigate the relationship between dividend-agency relationship among the JSE listed financial services companies. This chapter concluded by summarising the scope and demarcation of the study as well as study limitations.

Chapter two (2) in the main the theoretical framework emerged from seminal work of distinguished scholars Modigliani and Miller (MM, 1958; 1961). Modigliani and Miller (1961) advanced dividend irrelevance together with residual theory, meanwhile, Graham and Dodd (1951), as well as Lintner (1956), Gordon (1959) propagated Dividend Relevance Theory. To sustain these theories, sub-theories such as bird in the hand, Clientele Effect Theory, Smoothed Dividend Theory and Signalling Theory were developed. On the other hand, the Agency Theory emanates from the seminal work of Jensen and Meckling (1976) and Easterbrook (1984). The Agency Theory put forward forms of ownership structure as mechanisms to mitigate agency problems. The current study used forms of ownership such as foreign ownership, management

ownership, leverage, and institutional ownership as proxy for the Agency Theory. The findings were fairly substantiated by these dividend-agency theories. The point of departure from previous studies is that the current study sought to determine dividend-agency relationship rather than contrast the theories. Modigliani and Miller (1961) are a classic premise on a theoretical abstract of ideal world. Meanwhile, the overall findings demonstrated that in practice, the dividend-agency theories complement each other, therefore reduce agency problems of JSE listed financial services companies. Notably developments from the findings are that practice has managed to harmonise the theoretical abstract world with the real and practical environment and ensuring the reduction of agency problems.

An overview of the theoretical framework upon which the study is anchored was presented in a schematic graph under chapter two. This chapter began by investigating the genesis of the dividend-agency theories. This was done through fully exploring dividend irrelevance and residual theories. Similarly, Dividend Relevance Theory was discussed in line with seminal work by Lintner (1956) and Gordon (1963). Lastly, the Agency Theory was discussed through ground-breaking work by Jensen and Meckling (1976). Furthermore, literature review revealed contradictory findings and this lead to a research gap for the current study. Dividend theories were critically discussed using assumption theories: Bird in the Hand Theory, Signalling Theory, Clientele Theory, Asymmetry Information Theory, Tax Effect Theory, and Smoothed Dividend Theory. Similarly, the Agency Theory was discussed using institutional ownership, managerial ownership, foreign ownership, agency cost and leverage. The development of the research questions and objectives was fully focused on the aforementioned theories. The choice of methodology was influenced by the research questions, which were determined by dividend-agency theories from this chapter. In this chapter, the main focus was to investigate dividend-agency relationship of the JSE listed companies through literature review.

Chapter three (3) examined the relationship between dependent and independent variables, and the current study adopted panel data technique. As such, it provided advantageous analytical attributes such as combining cross-sectional and time-series data, which enabled the increase of degrees of freedom for the robustness of the test (Brooks, 2014). Furthermore, this methodological approach has the ability to mitigate

problems of Multicollinearity that makes the rejection of null hypothesis impossible (Williams, 2015). To ensure that the current results were credible and provided unique approach to other similar previous studies, various panel data analytical instruments were adopted, namely, panel data econometric analysis; panel data analytical models; Generalised Method of Moments (GMM); and GMM estimation models. To determine the relevant panel data regression models, several tests of specification for panel data were conducted. Panel data methodology accounted for dividends trends over the period 2005-2016, which allowed for time effects. It is against this background that the researcher chooses panel data methodology for the current study.

In order to accomplish the main research objective that involved examining relationship between dividend-agency relationship, the study adopted deductive research approach. The process of deductive research approach resonates with the quest to test or confirm assumption theories that guided the development of research questions (Creswell, 2015). Furthermore, through a deductive approach, the researcher was able to answer and confirm research questions that were formulated from the assumption theories (Brooks, 2014). This deductive research approach provided a point of departure from similar previous studies. Therefore, the study made a significant improvement relative to similar studies by using PANEL DATA instead of ordinary least square (OLS).

An overview of methodological framework that briefly summarised methodological approach was presented in a schematic graph in Chapter 3. This chapter discussed econometric methods that underscore the research methodology. Several panel data tests and estimation models were fully developed to ensure precision, consistence and reliability. Furthermore, these panel data tests and models were used to control heterogeneity, therefore ensuring validity of the current findings. The research questions and objectives determined, to a large extent, the choice of methodological approach adopted in this chapter. The research questions were fully developed in this chapter as well as regression model and its variables. To answer research questions, this chapter employed data analysis techniques aforementioned. In line with methodological choice for this chapter, panel data regression techniques were discussed at length. The study design outlined research philosophy and methodological approach. On research philosophy, the study adopted positivism,

which used secondary data to address research problem. Quantitative research is usually associated with a deductive approach, where the focus was on using data to test or confirm theoretical assertions (Saunders et al., 2012). In addition, the methodological approach detailed the nature of the data and data collection process. To control autocorrelation and heterogeneity, the current study adopted differencing fixed effect regression model, instead of OLS estimation like previous studies.

Chapter four (4) presents the empirical results and analyses of the dividend-agency relationship of JSE listed financial services companies for the period 2005-2016. In this chapter, the main research questions and objectives were answered using EViews version 9 to perform statistical technique such as descriptive, correlation and panel regression analysis. To ensure robust findings, panel unit root test, together with ADF test and PP test were employed. This chapter employed Co-integration analysis in determining dividend-agency relationship to avoid statistical bias. In light of unbalanced data, this chapter adopted fixed effect regression model in determining correlation between dividend-agency variables. This chapter demonstrated positive relationship between ROE, PROFITS, company SIZE, and DIV. In practice, the results meant that an increase of JSE listed financial institutions and company SIZE has positive impact on shareholder wealth. Accordingly, this finding answered the research question: What influence do the factors that underpin both agency problems and dividend policy of companies listed on the JSE have on the shareholder wealth maximisation? The overall findings revealed that more than 50% of JSE listed companies follow dividend decision, with positive and significant dividend-agency relationship.

This chapter employed group descriptive statistics. Table 4.1, correlation analysis Table 4.2 and Table 4.2.10, fixed effect method, and panel EGLS regression model, to determine dividend-agency relationship of JSE listed financial services companies. Table 4.1 depicts the results of the group descriptive statistics analysis for the JSE listed financial services companies, which demonstrated high levels of indebtedness. This implied that JSE listed companies are heavily reliant on debt financing. As such, the JSE listed financial institutions rely on external markets to raise capital for financing investments prospects (Jensen, 1986). External markets provide corporate governance, and therefore enhance companies' performance, resolve information

asymmetry and subsequently reduce agency costs. The results are in line with the Agency Theory's assertion that the use of debt mitigates agency costs (Jensen & Meckling, 1976).

Furthermore, Easterbrook (1984) argues that to significantly reduce agency problems companies must increase dividend payouts. Consequently, companies will be subjected to market discipline to ensure corporate governance, thus ultimately aligning the management interest to that of the shareholders. In practice, it is very difficult for a company to raise capital when it is in debt. However, a company that follows a dividend decision strategy is different from a company that is in debt owing to poor performance, poor corporate governance or misappropriation of funds. In line with the current results were Vo and Nguyen (2014), who report similar findings between dividend payout and leverage. On the contrary, Osegbue et al.'s (2014) findings reported negative relationship between LEV and dividend payout. Results from Table 4.2 and 4.5.1 confirmed the Agency Theory's assertion that the use of forms of ownership significantly reduces agency problems (Jensen & Meckling, 1976). One key result is that previous year's dividend is not significantly a determinant of the current year' dividends. Regression results in Table 4.2.10 found negative and insignificant relationship between ROE and DIV. This implied that JSE listed financial companies are incurring agency cost in the form of cash dividends payments. Yet companies are not earning profits from equity. The results provide credence to Modigliani and Miller's (1958; 1961) Dividend Irrelevance Theory.

Chapter five (5) presents conclusions of the results, objectives, recommendations, limitations, and future research suggestions. The primary research question sought to determine dividend-agency relationship of financial services companies listed on the JSE. From Table 4.2.10, it is reported that the overall effect of the explanatory variables in explaining dividend payout ratio (DIV) is 89% of the JSE listed financial services companies for the period 2005-2016. Similarly, from Table 4.1, it can be observed that up to 54.69% of JSE listed financial institutions practice dividend decision within the same time frame quoted above. Therefore, the results demonstrate a very strong dividend decision practice by JSE listed financial services companies. In line with these results are findings by Piketty (2014), who confirmed that JSE listed companies exercise dividend decision albeit continuously experiencing agency

problems. The results contradict the proposition advanced by relevance theory, that the payment of dividends resolves agency problems (Easterbrook, 1984). Similarly, Michael (2016) reported results in which he found that dividend decision did not alleviate agency conflicts for Nigerian listed companies. The results demonstrate a trend on dividend decision practice among emerging economies within the same period 2005-2016. Despite a very strong dividend-agency relationship demonstrated by the results, agency problems remain unresolved for the JSE listed financial services companies.

However, regression results in Table 4.2.10 exhibits a negative and significant relationship between dividend payout ratio (DIV) and D (INST) variables. Consistent with the results are propositions of Dividend Irrelevance Theory advocated by Modigliani and Miller (1958; 1961). Further concurrence with the results is the Agency Theory assertion that dividends can be substituted with D (INST) therefore, reduce the need to pay dividends thereby resolves agency conflicts (Jensen & Meckling, 1976). In the same vein, the results are consistent with Aydin and Cavdar's (2015) findings. Similarly, Fairchild et al. (2014) report that companies with higher ownership concentration are likely to pay less dividends as is the case with current results. However, Daradkah and Ajlouni (2013), Thanatawee (2013), Thanatawee (2014), and Dandago et al. (2015) recorded contrary results all reported on positive and significant results between dividend payout ratio and D (INST). The results affirmed the corporate governance and the principle of separation of ownership from control for the JSE listed financial services companies for the period 2005-2016.

The study sought to investigate the influence the factors that underpin both agency problems and dividend policy of companies listed on the JSE have on the shareholder wealth maximisation. The results from Table 4.2.10 exhibited positive and significant relationship between dividend payout and company SIZE. The company SIZE was identified as being among the factors that underpin both agency problems and dividend policy of companies listed on the JSE. The results imply that positive company SIZE leads to payments of dividends, which benefit shareholders. In this regard, for JSE listed financial institutions for the period quoted above. Similarly, Ayman (2015) reported the same findings. On the contrary, Vo and Nguyen (2014) and Correia et al.'s (2015) findings refutes the findings of the current study.

To reiterate, the study sought to investigate the role dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems. In response to this research question Table 4.2.10 exhibited negative and statistically significant relationship between dividend payout ratio (DIV) and D (DIRS). The results are in line with the principle of separation of control and ownership as advanced by the Agency Theory (Jensen & Meckling, 1976). The results implied that D (DIRS) can be substituted for dividend payments as arguments articulated by proponents of the Agency Theory (Jensen & Meckling, 1976). Furthermore, King IV Report (2016) confined directors' ownership not to exceed 5% of the companies' total number of shares in issue. The results demonstrate that JSE listed financial institutions met this recommendation, hence the negative relationship between D (DIRS) and DIV. As such, this reduced the need to pay dividends thereby resolving agency problems through the role played by dividend-agency relationship of JSE listed financial services companies for the period 2005-2016. The results are consistent with Aydin and Cavdar's (2015) findings, who also reported that there is significant and negative relationship between dividend payout and managerial ownership. However, Uwalomwa et al.'s findings (2015) refute the current's study's findings as they reportedly found statistically and positive relationship between managerial ownership and dividend payout.

5.2.1 Conclusion of each objective

In order to achieve the primary objective of the study, the secondary objectives were developed to determine dividend-agency relationship of JSE listed financial services companies for the period 2005-2016.

Secondary objective one (1) - To determine the relationship between dividend policy and agency problems of financial services companies listed on the JSE.

This objective was tested by running panel unit root tests: Levin, Lin and Chu test, Im, Pesaran and Shin W-stat test, ADF - Fisher Chi-square test, and PP - Fisher Chi-square test. The panel unit root tests were conducted to control heteroscedasticity and spurious results to ensure robust findings for the JSE listed financial services companies. To ensure robust results the Panel Estimated Generalised Least Square (EGLS) was employed and the results confirmed that the model is free of

autocorrelation, multicollinearity and heteroscedasticity. Tables 4.1 and 4.5.1 recorded 54.69% and 89% respectively on a dividend decision practice by JSE listed financial services companies. This implied a very strong relationship between dividend-agency relationship of companies listed on the JSE. However, despite this very robust dividend-agency relationship, agency problems remain persistent for the JSE listed financial services companies for the period 2005-2016.

Secondary objective two (2) - to determine the extent to which dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems.

This objective was subjected to panel unit root tests aforementioned to determine stationarity and non-stationarity of DIRS, CASH flow, FOREIGN ownership, INST ownership, PROF, and LEV variables used to determine secondary objective two. The panel root tests confirmed CASH flow, DIV, LEV, and PROF to be stationary time series at level (no differencing), meanwhile D (DIRS), D (FOREIGN) ownership, and D (INST) ownership were confirmed to be non-stationary after differencing. Table 4.2.10 recorded negative relationship between CASH flow and DIV. This implied that JSE listed financial institutions for the period are forced to borrow from the markets to finance their capitalisation of investments projects. The results are in line with the Agency Theory's assertion, which advocates for reducing the availability of CASH flow from management to reduce agency conflicts (Jensen & Meckling, 1976). This exposes companies to the scrutiny of financial markets, and therefore strengthens corporate governance of JSE listed financial services companies for the period 2005-2016.

Secondary objective three (3) - to determine the extent to which dividend-agency relationship reconciles to achieve the goal of maximising shareholder wealth of financial services companies listed on the JSE.

This objective employed fixed effect cross-sectional regression model in order to obtain robust results. The choice of fixed effect cross-sectional regression model was to ensure the statistical validation of the results for this objective. Table 4.2 demonstrates negative relationship between DIRS, INST, and ROE for the JSE listed financial services companies for the period 2005-2016. This implied that dividends

were consistently paid out despite negative returns on companies' equity. This practice is at the heart of the dividend controversy commonly known as dividend puzzle framed by (Black, 1976). The results are in line with Smoothed Dividend Theory, that uses dividend as signalling investment strategy.

5.3 CONCLUSIONS OF STUDY OBJECTIVES

The study had its primary object to determine the relationship between dividend policy and agency problems of financial services companies listed on the JSE. To realise fully the primary objectives, the study had to explore the secondary objectives as inter alia:

5.3.1 To determine the relationship between dividend policy and agency problems of financial services companies listed on the JSE

The study employed statistical tools for analysis, such as correlation coefficient and descriptive statistics. The current study employed the following variables CASH FLOW, Company SIZE, INST, FIN LEV, PROF, FOREIGN and CEO ownership to determine dividend-agency relationship. The measurement formulae that were used in the aforementioned variables were captured in Table 3.3: variables, proxies and measurement formula as well as subheading 3.11.2. Table 4.1: group descriptive statistics of the variables for the period 2005-2016 reported that the majority of companies listed on the JSE under the financial services sector practice dividend policy as per Table 4.1. Furthermore, Table 4.2 for the correlation coefficient analysis exhibited positive relationship among FIN LEV, FOREIGN, INST, ROE, and PROF variables as per Table 4.2.

5.3.2 To determine the extent to which dividend-agency relationship of financial services companies listed on the JSE in resolving agency problems

Once the first secondary objective was determined, then the second objective had to focus on the theory assertions that Dividend-Agency Theory resolves agency conflicts. This implied that corporate governance ownership mechanisms underscored by agency theories such as institutional ownership, directors' ownership and foreign ownership were adopted. Similarly, dividend sub-theories as captured per the figure

2.1: dividend-agency theoretical framework in summary was employed to help answer the second objective. Table 4.2 exhibits positive relationship between dividend payout ratio and INST, FOREIGN and ROE, which was contrary to the dictates of the Agency Theory. According to the Agency Theory, FOREIGN and INST ownership should exhibit a negative sign, therefore negate the need to pay dividends. Meanwhile, the descriptive statistics reported that 54.69% of the JSE listed financial services companies pay dividends despite the use of the aforementioned variables as substitutes as per Table 4. 1. However, Table 4.2 reports positive FIN LEV, while Table 4.2.10 captured negative CASH FLOW. This implied that JSE listed financial services companies are forced to borrow from the markets to finance their investment projects. Accordingly, this is in line with the Agency Theory's assertions that companies should reduce cash flow availability, therefore forced to borrow from the markets. This brings forth market monitoring mechanisms and strengthens corporate governance. Consequently, this significantly reduces the misappropriation of funds, and ultimately resolves agency costs (Shleifer & Vishny, 1986).

5.3.3 To determine the extent to which dividend-agency relationship reconciles to achieve the goal of maximising shareholder wealth of financial services companies listed on the JSE

From Tables 4.2 and 4.5.1 it can be observed that financial leverage (LEV) exhibits a positive relationship between LEV and dividend payout ratio. This implied that JSE listed companies relied upon debt financing. As such, this brings forth monitoring mechanism by markets. Therefore, this strengthens corporate governance as per the Agency Theory's assertion (Jensen & Meckling, 1976).

5.4 CONCLUSION OF THE STUDY

The primary objective of this study was to determine dividend-agency relationship of financial services companies listed on the JSE for the period 2005-2016, in light of the co-existence of dividends payments alongside with agency problems as confirmed by Piketty (2014). According to correlation statistical tests in Table 4.2, the results demonstrated overall significant positive relationship between dependent and explanatory variables. Table 4.2.10 recorded an overall 89% of the variance in the dependent variable. Meanwhile, an overall statistical significant P (F-statistic) value is

recorded at 0.0000. This meant that explanatory variables were strong and significant in explaining changes taking place in the dependent variables.

What is the relationship between dividend policy and agency problems of financial services companies listed on the JSE? A positive relationship was expected between LEV, PROF, ROE, company SIZE, and DIV (dividend payout) in terms of regression equation. This is consistent with the Agency Theory's assertion that companies must payout dividends and use external financial markets to raise capital for investments projects (Jensen & Meckling, 1976). Accordingly, this investment strategy brings forth external markets to enforce corporate governance principles, and therefore, align management interest to that of the shareholder. The results contradicted Modigliani and Miller (1958; 1961) Residual Dividend Theory's assertion that dividends should be paid out from retained earnings when investments opportunities are winding down. In Table 4.2.10, the F-statistic value 75.6014 and DW statistic value 1.7128 demonstrated that the panel EGLS regression model is well fitted. Therefore, the results can be relied upon. The aforementioned regression model and correlation results were able to answer the main research question and one secondary objective of the current study.

What role does the dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems? Correlational analysis in Table 4.2 found negative relationship between dividend payout (DIV) and DIRS and company SIZE. This implied that share ownership concentration by directors (DIRS) is reduced. Consequently, this reduces dividend payout to directors, and ultimately reduces agency costs. Accordingly, the findings give credence and statistical evidence to the Agency Theory's assertion on how to resolve agency problems (Jensen, 1986). As such, management with reduced dividends ownership is less entrenched, more independent and aligned to the shareholders' interest. Meanwhile, from Table 4.2.10, after differencing, D (DIRS) reported negative significant relationship between DIV and D(DIRS). This is in tandem with results in correlational analysis as per Table 4.2.

The extent to which dividend-agency relationship of financial services companies listed on the JSE play in resolving agency problems was determined. Correlational analysis in Table 4.2 demonstrated positive and significant relationship between FOREIGN, institutional ownership (INST), ROE, and dividend payout (DIV). Similarly,

Steyn and Stainbank (2013) report that JSE listed companies are predominantly controlled by block shareholders. This implied that JSE listed financial services companies had a strong influence of INST control during the 2005-2016. Accordingly, this brings forth market disciplinary mechanism, and therefore, reduces agency problems (Jensen & Meckling, 1976). Furthermore, this resolves information asymmetry problems between insiders and outsiders' shareholders. Similarly, panel EGLS regression model in Table 4.2.10 after differencing D (FOREIGN) found negative and significant relationship between D (FOREIGN) and dividend payout (DIV). The findings are in line with correlational analysis in Table 4.2.

The extent to which dividend-agency relationship reconciles to achieve the goal of maximising shareholder wealth of financial services companies listed on the JSE was determined. The panel EGLS regression model in Table 4.2.10 found positive and significant relationship between company SIZE, profits (PROF) and dividend payout (DIV). This implied that the increase in the company SIZE and PROFITS leads to increase in dividends payouts (DIV), therefore, making positive impact in maximising shareholder wealth. Moreover, to increase dividend payout, signals positive investments prospects, as advanced by Dividend Signalling Theory (Easterbrook, 1984). Similarly, Iqbal, Waseem and Asad (2014) report positive and significant relationship between company SIZE and DIV. Therefore, it makes a positive impact on shareholder wealth.

The research problem statement emanated from the literature review that had identified friction in research results in that dividend assumption theories argued that the payment of dividends resolves agency problems (Easter Brook, 1984). However, Lambrechts (1992); de Wet and Mpinda (2013); and Steyn and Stainbank (2013); Piketty (2014) all reported contrary that JSE listed companies pay dividends, yet they experience agency problems. This meant that JSE listed companies continuously experience agency conflicts borne out of agency problems. The industry practice to continuously incentivise directors through dividends despite poor company performance, drew critique from proponents of dividend Irrelevance Theory Modigliani and Miller (1958; 1961) and Black (1976). This practice has sustained agency problems and principal-agent cost. As such, Black (1976) termed it "Dividend puzzle". At the core of the research problem is dividend compensation that contributes to

agency problems and partly contributes to inequality (World Bank, 2018). Rajan (2005), Bebchuk and Spamann (2010), Haldane (2011), Fahlenbrach and Stulz (2011) identified that executive compensation through dividends as part of agency problems that partly contributes to inequality, poverty, social instability, and unsustainability of businesses in a long run. Meanwhile, Smith (1776) identified agency problems as a threat to world economic order and companies' outcomes. This is the research problem caused by agency problems that necessitated the determination of dividend-agency relationship of JSE listed financial services companies.

The current results concur with the Agency Theory's assertion that the forms of ownership such as institutional ownership (INST), FOREIGN ownership, management ownership (DIRS) and leverage (LEVERAGE) can resolve agency problems (Jensen & Meckling, 1976). Therefore, this resolves agency costs for those JSE listed financial services companies that had chosen corporate governance inclined to forms of ownership to substitutes dividends. Accordingly, this maximises shareholder wealth and upholds the principle of separation of ownership and control. The statistical results that substantiate this conclusion are documented and found in Table 4.1 group descriptive, Table 4.2 correlational analysis and Table 4.2.10 fixed effect method: panel EGLS regression model. Essentially, the empirical results imply financial stability owing to the progress achieved in resolving agency conflict of JSE listed financial services companies as per Tables, 4.1, 4.2, 4.4.1-4.4.9, and 4.5.1.

5.5 RECOMMENDATIONS

The recommendations are made and drawn from the current results of the JSE listed financial services companies within the timeframe of 2005-2016. Furthermore, data on shareholder ownership is largely manually extrapolated. This needs to change for the sake of accuracy and precision. The industry is advised to adopt debt financing strategy as it was confirmed through these results that it does reduce agency costs and provide market disciplinary mechanism. The industry should strive to implement remuneration policies that encourage the use of forms of ownership such as INST, and FOREIGN ownership as it was confirmed to reduce agency problems as per Table 4.2 and Table 4.2.10. Meanwhile, companies should reduce the availability of cash flows confirmed through the current results that cash availability contributes to agency

problems. Furthermore, industry should employ debt-financing strategies. It was confirmed that it brings forth corporate governance principles and therefore resolves agency problems. The study rationale identified inequality as partly the consequence of the agency problems. Accordingly, this is borne out of historic trajectory under which South Africa once languished. As a result, a multi-pronged approach, which encompasses government prescripts such as employment equity act, affirmative action and dividend-agency theoretical approach, should be adopted in order to reduce agency problems. It is advised that these policies should form part of requirements for all JSE listed companies. Therefore, researchers will be able to develop proxies to test the applicability and performance of these policies.

5.6 LIMITATIONS OF THE CURRENT STUDY

The study was mainly focused on dividend policy and agency problems of financial services companies listed on the JSE for the period 2005-2016. As such, the results cannot be generalised for the rest of the sectors found on the JSE for the similar period. The data on percentages of shareholding was not disaggregated. To overcome this shortcoming, data had to be supplemented by financial statements. In addition, the researcher used directors' reports from IRESS database to determine collective share ownership of directors not as individuals. Consequently, these anomalies are likely to compromise the robustness of the results and interpretation of the results thereof. The companies differed owing to factors such as leverage, percentage of shareholding owned by management, total assets and company size. To avoid statistical bias that might be imposed by this company structural imbalance, the current study adopted quantitative technique approach and proportional stratified sampling methods. In South Africa, the dividend regime was applicable for the first time from 01 April 2012. As a result, the current results cannot be compared with other dividends results outside this period. The choice of dependant and explanatory variables didactes and confine the profile of other similar studies that can be compared with the current study.

Owing to data intricacies already reported, the current study was unable to identify individual shareholding ownership percentages. Therefore, the researcher is unable to report whether the principle of not exceeding five percentage share ownership by

directors was complied with or not as recommended by King IV report, (2016). As such, the researcher is unable to report on independence of individual directors, and therefore conclude on whether directors are risk averse or not when taking investment decisions.

5.7 RELIABILITY AND VALIDITY OF THE FINDINGS

To ensure that the findings are credible, reliable and valid, the researcher employed panel EGLS regression model, which demonstrated robust results relative to GMM and two stage least square (2 SLS). Therefore, panel data models ensured accuracy of a measurement procedure. The current study employed DW statistic test to mitigate autocorrelation to ensure statistical reliable and valid results. Furthermore, the study adopted Seemingly Unrelated Regression (SUR) method to mitigate heteroscedasticity to ensure precision and reliability of results. If similar methodological instruments are followed elsewhere consistent results should be attained, thus ensuring reliability (Saunders et al., 2016). The study used both time series together with cross-sections to enhance the quantity and quality of the data in ensuring statistically reliability of the results. Hausman test was used to determine the validity and the robustness of the fixed effect model (Brooks, 2014). Some of the statistical tests and panel data econometric models were modelled from the previous studies. As such, the results were similar. This demonstrated that the results are valid, and consistent therefore can be relied upon.

5.8 CONTRIBUTION TO THE BODY OF KNOWLEDGE

The results form an integral contribution to the multifaceted effort to find appropriate approach that reduces agency problems thereby increasing shareholder value. Consequently, principal-agent interest is aligned as confirmed by overall agency problems reduction and enhanced companies' performance confirmed by results in all Tables 4.1, 4.2 and 4.5.1. The study provides statistically tested and theoretically substantiated findings that confirm overall reduction of agency costs through dividend-agency relationship. The study provides baseline on any dividend-agency relationship study that sought to determine whether this relationship reduces or further perpetuates agency problems of JSE listed financial services companies. Dividend compensation is an instrument that partly contributes to the inequality, poverty and unemployement

as undersocored by Gini coefficient index of 0.8 World Bank (2018). Therefore, the study adds value to the body of knowledge in that dividends payments contributes to principal-agency costs as confirmed by Tables 4.1, 4.2 and 4.5.1. This indirectly contributes to social inequality. The school of thought of dividend irrelevance deductively considers the payment of dividends as determinant of agency problems (MM, 1958, 1961). Furthermore, Black (1976) concurs with MM (1961), hence, they pondered on the industry practice to pay dividends, since they are irrelevant to company performance. In line with this thinking is the Agency Theory approach postulates that dividends payments can be substituted by forms of ownership, thereby reduce agency problems (Jensen & Meckling, 1976). Lastly key contributions to the corporate finance literature. It can be observed as the key finding from the current study that the two theories converge in that company performance, good corporate governance and the reduction of agency problems can be achieved without dividend payments as per Table 4.1 foreign confidence at 5%. Table 4.1 exhibits an increased leverage which brings forth market disciplinary mechanisms to align management interests to that of shareholders without using dividends and Thanatawee (2014) concurs. From Tables 4.2 and 4.5.1 it can be observed as a key finding that previous year's dividend is not significantly a determinant of the current year' dividends. However, contrary to these findings were (Maladjian & Khoury 2014; Dada, Malomo & Ojediran 2015; Khan & Ahmad 2017).

5.9 SUGGESTIONS FOR FUTURE RESEARCH

The current study adopted secondary data as part of its statistical analysis. Therefore, it is recommended that a similar study should be undertaken that will employ primary data in order to determine the robustness of the results of the current study. It is recommended that a similar research be undertaken, which will employ different proxies such as individual director share ownership and qualitative methodological approach, in order to determine the robustness of the current findings. Future research should explore similar topic in other sectors of JSE listed companies in order to determine trends emerging from sector to sector. The current study was undertaken at a time South Africa was declared by credit rating agencies, namely, Standard and Poor's (S&P), Moody's and Fitch Group as technically being at junk status. The downgrading of South Africa below investment grade could have impacted negatively

on FOREIGN ownership variable as investors finds this country less attractive. Accordingly, it is recommended that similar study be carried out post South Africa downgrade in order to determine the robustness of the current results.

5.10 SUMMARY OF THE CHAPTER

This sub-section covers the essence of this chapter in line with the core theories, the industry practice, research problem, research questions and objective for the JSE listed financial institutions for the period 2005-2016. The literature review from previous studies, sharply revealed friction in research results, in that dividend assumption theories argued that the dividend decisions resolves agency problems (Jensen, 1986). However, from descriptive statistic table 4.1 of the current study recorded that on average 54, 69% of JSE listed financial services companies exercise dividend decision albeit continuously experiencing agency conflicts. In line with the current results were Lambrechts (1992); de Wet and Mpinda (2013); and Steyn and Stainbank (2013); (Piketty, 2014). Meanwhile, from Table 4.1 it is noted that on average 28.69% of JSE listed financial institutions' directors (DIRS) consistently received dividends. In essence, this implied inadequacy of both divdend-agency theories in resolving agency problems of JSE listed financial services companies.

This industry practice to continuously incentivising directors through dividends despite poor corporate governance, drew critique from proponents of dividend irrelevance theory (MM, 1958; 1961) and (Black, 1976). The practice is at nerve centre of dividend theory controversy, why industry pay dividends notwithstanding that this practice has sustained agency problems and principal-agent cost, commonly known as dividend puzzle (Black, 1976). At the core of the research problem is the dividend compensation that contributes to agency problems and partly contributes to inequality (World Bank, 2018). This is the research problem caused by agency problems, therefore, necessitated the research objective: to determine dividend-agency relationship of JSE listed financial' services companies. From Table 4.2 group correlation analysis exhibits that FOREIGN and PROF are positively correlated with dividend pay-out ratio (DIV). The results implied that JSE listed finacial institutions pay dividends (DIV) out of profits (PROF). This practice is in line with the assertions advanced by the proponents of dividend irrelevance theory (MM, 1961), who argued that dividends should be paid out

of retained earnings. The payment of dividends further signalled sound corporate governance. This attract FOREIGN ownership as they want to invest locally and further strengthens corporate governance. Both dividend assumption theories namely: Signalling and Smoothed Dividend Theories were used by JSE listed financial institutions as an investment strategy to attract FOREIGN and INST institutional ownerships. Henceforth, the practice by JSE listed finacial services companies to continuosly pay dividends albeit experiencing agency problems. Essentially, the results sought to address the research problem characterised by dividend puzzle for the current study.

The current findings concur with the Agency Theory's assertion that the forms of ownership such as institutional ownership (INST), FOREIGN ownership, management ownership (DIRS) and leverage (LEVERAGE) can resolve agency problems (Jensen & Meckling, 1976). Therefore, it resolves agency costs for those JSE listed financial institutions that had chosen corporate governance inclined to forms of ownership to substitutes dividends. Accordingly, this maximises shareholder wealth and upholds the principle of separation of ownership and control. The statistical findings that substantiates this conclusion are documented and found in Table 4.1 group descriptive, Table 4.2 correlational analysis and Table 4.2.10 fixed effect method: panel EGLS regression model.

From Table 4.2.10 it is reported that LEV recorded positive and statistically significant relationship with dividend payout ratio. The results implied that dividend payments led to increase in financial leverage of financial services companies listed on the JSE. This implied the resolution of agency conflicts through cash flows reductions. This is borne out of the application of external disciplinary mechanisms to align management interest to that of shareholders. This strengthens corporate governance for the JSE listed financial services companies for the period 2005-2016.

REFERENCES

Abdullah, N.M.H., Ahmad, Z. & Roslan, S. 2012. The influence of ownership structure on the firm's dividend policy based Lintner Model. *International Review of Business Research Papers*, 8(6):71-88.

Abor, J. & Fiador, V. 2013. Does corporate governance explain dividend policy in Sub-Saharan Africa? *International Journal of Law and Management,* 55(3):201-225.

Adedeji, T.A. 1998. Does the pecking order hypothesis explain the dividend payout ratios of firms in the UK? *Journal of Business Finance and Accounting*, 25(9/10):1127-1153.

Adjaoud, F. & Ben-Amar, W. 2010. Corporate governance and dividend policy: Shareholders' protection or expropriation? *Journal of Business, Finance & Accounting,* 37(5-6):648-667. Available from: <http://dx.doi.org/10.1111/j.1468-5957.2010.02192>.

Adjaoud, F., Chkir, I. & Saadi, S. 2006. What drives Canadian corporate dividend policy: Agency cost or information asymmetry? 6th Global Conference on Business & Economics. ISBN: 0-9742114-6-X.

Aduda, J.O. & Kimathi, H. 2011. The applicability of the constant dividend model for companies listed at the Nairobi stock exchange. *Journal of Financial Studies & Research.* Available from: <http://www.ibimapublishing.com/journals/JFSR/jfsr.html>

Afshan, N., Chhetri, P. & Pradhan, S. 2011. Board, ownership structure and pay and firm performance: A literature review. *IUP Journal of Corporate Governance,* 10(2):82-92.

Afza, T. & Mirza, H.H. 2010. Ownership structure and cash flows as determinants of corporate dividend policy in Pakistan. *International Business Research*, 3(3):180-187.

Aggarwal, R., Erel, I., Ferreira, M. & Matos, P. 2011. Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics*, 100(1):154-181. Available from: <http://www.dx.doi.org/10.1016/j.jfineco.2010.10.018>

Ahmad, H. & Javid, A. 2010. The ownership structure and dividend payout policy in Pakistan (evidence from Karachi Stock Exchange 100 index). *International Journal of Business Management and Economic Research*, 1(1):58-69.

Ahmed, H. & Javid, A.Y. 2008. Dynamic and determinants of dividend policy in Pakistan: Evidence from Karachi stock exchange non-financial listed firms. *Journal of Finance and Economics*, 25(1):148-171.

Ahmed, I.E. 2014. The impact of liquidity on the dividends policy. Proceedings of 26th International Business Research Conference 7-8 April, Imperial College, London.

Ajanthan, A. 2013. The relationship between dividend payout and firm profitability: A study of listed hotels and restaurant companies in Sri Lanka. *International Journal of Scientific and Research Publications,* 3(6):1-6.

Akhigbe, A. & Whyte, A.M. 2012. Does the use of stock incentives influence the payout policy of financial institutions? *The Quarterly Review of Economics and Finance,* 52(1):63-71.

Akit, F.M., Hamzah, N.H. & Ahmad, N. 2015. Impact of dividend policy on the shareholders' wealth: Shariah vs Non-Shariah Companies. *GTAR-2015*, 2:722-743.

Al Shabibi, B.K. & Ramesh, G. 2011. An empirical study on the determinants of dividends policy in the U.K. *International Research Journal of Finance and Economics,* 80:105-120.

Al-Gharaibeh, M., Al-Zurigat, Z. & Al-Harasheh, K. 2013. The effect of ownership structure on dividends policy in Jordanian companies. *Interdisciplinary Journal of Contemporary Research in Business,* 4(9):769-796.

Al-Kuwari, D. 2009. Determinants of the dividend policy in emerging stock exchanges: The case of GCCC countries. *Global Economy & Finance Journal*, 2(2):38-63.

Al-Malkawi, H.A.N. 2007. Determinants of corporate dividend policy in Jordan: An application of the Tobit Model. *Journal of Economic & Administrative Sciences,* 23(2):44-70.

Al-Malkawi, H.A.N., Rafferty, M. & Pillai, R. 2010, Dividend policy: A review of theories and empirical evidence. *International Bulletin of Business and Administration*, 9(2):171-200.

Al-Najjar, B. & Hussainey, K. 2010. The joint determinants of capital structure and dividend policy. Working Paper. Middlesex University, UK.

Al-Nawaiseh, M. 2013. Dividend policy and ownership structure: An applied study on industrial companies in Amman stock exchange*. Journal of Management Research*, 5(2):83-106.

Ali, A., Azam, M., Shehzadi, I., Tahir, S.H. & Ullah, M.R. 2016. Agency problems, product market competition and dividend policies in Pakistan. *Arabian Journal of Business and Management Review,* S2:006. Available from: <http://www.omicsonline.org/open-access/agency-problems-product-market-competition-and-dividend-policies-inpakistan-2223-5833-1000S2-006.php?aid=78891>

Allison, P. 2014. Maximum likelihood for dynamic panel models with cross-lagged effects. Available from: <http://www.statisticalhorizons.com/wp-content/uploads/ML-DynamicPanel-1SP.pdf>

Allison, P.D. 2009. *Fixed effects regression models*. Thousand Oaks, CA: SAGE Publications.

Alvarez, I.C., Barbero, J. & Zofio, J.L. 2017. A panel data toolbox for MATLAB..doi 10.18637/jss. v076.i06. *Journal of Statistical Software,* 76(6):1-27.

Alzomaia, T.S. & Al-Khadhiri, A. 2013. Determination of dividend policy: The evidence from Saudi Arabia. *International Journal of Business and Social Science*, 4(1):181-191.

Amidu, M. & Abor, J. 2006. Determinants of dividend payout ratios in Ghana. *The Journal of Risk Finance,* 7(2):136-145.

Anderson, D.R., Sweeney, D.J., Williams, T.A., Freeman, J. & Shoesmith, E. 2014. *Statistics for business and economics,* 3rd ed. Andover: Cengage Learning.

Andreß, H.-J., Golsch, K. & Schmidt, A.W. 2013. *Applied panel data analysis for economic and social surveys.* Berlin: Springer-Verlag.

Andrew, B. & Jones, K. 2015. Explaining fixed effects: Random effects modelling of time-series cross-sectional and panel data. *Political Science Research and Methods* 3(1):133-53.

Anetos, P. 2017. Private stakes in SOEs “Kill Corruption”. *Sunday Times*, 23 July.

Ang, J., Cole, R. & Lin, J. 2000. Agency costs and ownership structure. *The Journal of Finance,* 55(1):81-106.

Anil, K. & Kapoor, S. 2008. Determinants of dividend payout ratios − a study of Indian information technology sector*. International Research Journal of Finance and Economics*, 15(1): 63-71.

Arellano, M. & Bond, S. 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies,* 58(2):277-297.

Arellano, M. & Bover, O. 1995. Another look at the instrumental variables estimation of error components models. *Journal of Econometrics,* 68(1):29-51.

Asghar, M., Ali. S., Hamid, K. & Suleman, M. 2011. Impact of dividend policy on stock price risk: Empirical evidence from equity market of Pakistan. *Far East Journal of Psychology and Business,* 4(1):45-52.

Asteriou, D. & Hall, S.G. 2011. *Applied econometrics*. New York: Palgrave Macmillan.

Aydin, A.D. & Cavdar, S.C. 2015. Corporate governance and dividend policy: An empirical analysis from Borsa Instanbul Corporate Governance Index (XKURY). *Accounting and Finance Research,* 4(3):66-76.

Ayman I. 2015. The determinants of dividend policy: Evidence from Malaysian firms. *Research Journal of Financial and Accounting,* 6(18):69-86.

Azhagaiah, R. & Priya, N.S. 2008. The impact of dividend policy on shareholders’ wealth. *International Research Journal of Finance and Economics*, 1(20):180-187.

Bai, J. 2013. Fixed-effects dynamic panel models, a factor analytical method. *Econometrica*, 81(1):285-314.

Baker, H.K. & Powell, G.E. 1999. How corporate managers view dividend policy. *Quarterly Journal of Business and Economics,* 38(2):17-35.

Baker, H.K. & Weigand, R. 2015. Corporate dividend policy revisited. *Managerial Finance*, 41(2):126-144. Available from: <http://www.emeraldinsight.com/0307-4358.htm>

Baker, H.K. 2009. *Dividends and dividends policy. The Robert W. Kolb Series in Finance.* Hoboken, New Jersey: John Wiley & Sons, Inc.

Baker, H.K., Powell, G.E. & Veit, E.T. 2002. Revisiting managerial perspectives on dividend policy. *Journal of Economics and Finance,* 26(3):267-283.

Baker, M., Wurgler, J. & Yuan, Y. 2009. Global, local, and contagious investor sentiment. Working Paper, Harvard Business School.

Baltagi, B.H. 2005. *Econometric analysis of panel data,* 3rd ed. Chichester: John Wiley & Sons.

Baltagi, B.H. 2008. *Econometric analysis of panel data,* 4th ed. West Sussex: John Wiley & Sons.

Baltagi, B.H. 2013. *Econometric analysis of panel data,* 4th ed. New York: John Wiley & Sons.

Basel Committee on Banking Supervision. 2015. Standards. Revised pillar 3 disclosure requirements. Bank for International Settlements.

Basiddig, H. & Hussainey, K.H. 2010. Is asymmetric information associated with UK dividend policy? *Journal of Applied Accounting Research*, 2-31.

Basith, M.A. 2013. A study on impact of dividend policy on shareholders' value. *Journal of Exclusive Management Science*, 2(3):2277-5684.

Bawa, S. & Kaur, P. 2013. Impact of dividend policy on shareholders' wealth: an empirical analysis of Indian information technology sector. *Asia-Pacific Finance and Accounting Review,* 1(3):17-23.

Bebchuk, L.A. & Friend, J.M. 2003. Executive compensation as an agency problem. *Journal of Economic Perspectives,* 17(3):71-92.

Bebchuk, L.A. & Spamann, H. 2010. Regulating bankers' pay. *Georgetown Law Journal*, 98:247-287.

Bell, A. & Jones, K. 2015. Explaining fixed effects: The random effects modelling of time-series cross-sectional and panel data. *PSRM*, 3(1):133-153.

Benjamin, I.E. 2015. An empirical investigation of the impact of dividend policy on the performance of firms in developing economics: Evidence from listed firms in Nigeria. *International Journal of Finance and Accounting*, 4(5):245-252.

Berezinets, I., Ilina, Y. & Alekseeva, L. 2014. Dividends on common and preferred shares: The relationship with the ownership concentration in Russian public companies. *Journal of Economic and Social Development*, 1(2):48-59.

Berle, A. & Means, G. 1932. *The modern corporation and private property*. New York: Macmillan.

Bernstein, P.L. 1996. Dividends: The puzzle*. Journal of Applied Corporate Finance,* 9(1):16-22.

Bhattacharya, S. 1979. Imperfect information, dividend policy, and "The Bird in the Hand" fallacy. *The Bell Journal of Economics,* 10(1):259-270.

Bhorat, H., Naidoo, K. & Yu, D. 2014. Trade unions in an emerging economy. WIDER Working Paper. United Nations University, 2014. Available from: http://www. wider.unu.edu/publications/working-papers/2014/en_GB/wp2014-055/_files/91363608585311303/ default/wp2014-055.pdf

Black, F. & Scholes, M. 1974. The effect of dividend yield and dividend policy on common stock prices and returns*. Journal of Financial Economics*, 1(1):1-22.

Black, F. 1976. The dividend puzzle. *Journal of Portfolio Management*, 2(2):5-8.

Bloomberg. 2012. Investec cuts CEO pay 87%, cancels bonus after returns slump. Available from: <http://www.bloomberg.com/news/2012-06-29/investec-cuts-ceo-pay-87-cancels-after-returns-slump.html>

Blundell, S. & Bond, S. 1998. Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics,* 87(1):115-143.

Bogle, J.C. 2010. 19 January. Restoring faith in financial markets. *The Wall Street Journal*, p: A17.

Bogonko, O. 2013 Effects of ownership structure on firm's dividend policy: Evidence from Nairobi Securities Exchange. Unpublished thesis, Master of Business Administration, School of Business. Nairobi: Unıversity of Nairobi.

Bond, S.R., Bowsher, C. & Windmeijer, F. 2001. Criterion-Based Inference for GMM in autoregressive panel data models. *Economics Letters*, 73(3):379-388.

Bontempi, M.E. 2015. Panel data: Models, Estimation, and the role of attrition and measurement errors. Available from: <http://www.istat.it/it/files/2015/07/M.E.-Bontempi.pdf>

Boshkoska, M. 2015. The agency problem: Measures for Its overcoming. *International Journal of Business and Management*, 10(1):1833-8119.

Botha, D. 1985. The effect of dividend policy on changes in shareholders' wealth. Unpublished Masters' dissertation. Port Elizabeth: University of Port Elizabeth.

Botha, D., Bosch, J.K. & Van Zyl, G.J.J. 1987. The effect on dividend policy on changes in shareholders wealth. *South African Journal of Economics*, 5(25):101-113.

Brav, A., Graham, J.R., Harvey, C.R. & Michaely, R. 2005. Payout policy in the 21st century. *Journal of Financial Economics*, 77(3):483-527.

Brennan, M. 1970. Taxes, market valuation and financial policy. *National Tax Journal,* 23(4):417-429.

Brigham, E.F. & Gapenski, L.C. 1993. *Intermediate financial management,* 4th ed. Orlando: The Dryden Press.

Brockman, P. & Unlu, E. 2011. Earned/contributed capital, dividend policy, and disclosure quality: An international study. *Journal of Banking & Finance*, 35(7):1610-1625.

Brooks, C. 2014. *Introductory econometrics for finance*, 3rd ed. Cambridge, UK: University Printing House.

Brown, P., Beekes, W. & Verhoeven, P. 2011. Corporate governance, accounting and finance: A review. *Accounting and Finance*, 51(1):96-172.

Brown, T. & Roberts, H. 2016. Agency theory, corporate governance and dividend payout in New Zealand. JEL Classification: G34, G353.

Brüderl, J. & Ludwig, V. 2015. Fixed-Effects Panel Regression. In: H. Best & C. Wolf (eds.). *Regression analysis and causal inference* (pp. 327-357). London: SAGE Publication.

Bruderl, J. 2005. Panel data analysis. University of Mannheim. Available from: <http://www.sowi.unimannheim.de/lehrstuehle/lessm/veranst/Panelanalyse.pdf

Bryman, A. & Bell, E. 2011. *Business research methods*. Oxford: Oxford University Press.

Bun, M.J.G. & Sarafidis, V. 2013. Dynamic panel data models. UvA-Econometrics Discussion Paper, 2013/01. Amsterdam School of Economics Research Institute.

Burns, N. & Grove, S. 1997. *The practice of nursing research: Conduct, critique and utilization* (3rd edition). Philadelphia: W.B. Saunders Company.

Business Day. 2012. Ramos takes cue from Barclays, defers R14m bonus pay. Available from: <http://www.bdlive.co.za/articles.2012/04/03.ramos-takes-cue-from-barclays-defers-r14m-bonus-pay; jsessionid=ICC32956345218BAD42CC7373DEOA2B.present2. bdfm.>

Bussin, M. & Huysamen, D. 2003. The factors driving change to remuneration policy and outcomes. *South African Journal of Human Resource Management*/*SA Tydskrif vir Menslike Hulpbronbestuur*, 2(2):45-54.

Bussin, M. & Satram, L. 2012. Factors driving changes to remuneration policies in South Africa. Working paper, Department of Human Resource Management, University of Johannesburg.

Bussin, M. 2015. CEO pay-performance sensitivity in the South African context. *South African Journal of Economic and Management Science,* 18(2)232-244.

Cai, C., Hiller, D., Tian, D. & Wu, Q. 2015. Do audit committees reduce the agency costs of ownership structure? *Pacific-Basin Finance Journal*, 35(A):225-240.

Cairns, P. 2014. SA's most innovative ETFs: Markets. *Personal Finance Newsletter*, 403:4-6.

Calzolari, G. & Magazzini, L. 2013. Testing initial conditions in dynamic panel data models, ISSN: 2036-2919 (paper) (online), pp. 2036-4679.

CASAC (Council for the Advancement of the South African Constitution). n.d. Summary and analysis of the report of the Marikana Commission of Inquiry. David Bruce (ed.).

Chau, G.K. & Gray, S.J. 2002. Ownership structure and corporate voluntary disclosure in Hong Kong and Singapore. *The International Journal of Accounting*, 37(2):247-264.

Chay, J.B. & Suh, J. 2009. Payout policy and cash-flow uncertainty. *Journal of Financial Economics*, 93(1):88-107.

Chelimo, J.K & Kiprop, S.K. 2017. Effect of dividend policy on share price performance: A case of listed insurance companies at the Nairobi Securities Exchange, Kenya. *International Journal of Accounting, Finance and Risk Management,* 2(3):98-106. Available from: <http://www.sciencepublishinggroup.com/j/ijafrm>

Cheng, H. 2014. *Analysis of panel data,* 3rd ed. London: Cambridge University Press.

Cheng, H. 2014. *Analysis of panel data,* 3rd ed. New York: Cambridge University Press.

Chung, K.H. & Zhang, H. 2011. Corporate governance and institutional ownership. *Journal of Financial and Quantitative Analysis*, 46(1):247-273. Available from: <http://www.dx.doi.org/10.1017/S0022109010000682 >

Ciaccia, C. 2012. Can Apple investors sue for a dividend, Yahoo Finance? Available from: <http://www.finance.yahoo.com/news/apple-investors.sue-dividend-130319100.html>

Cohen, T. & Uliana, E. 1990. An evaluation of corporate ownership structures Commission for Employment Equity. *Annual Report*: 2014-2015.

Cook, T.D. & Campbell, D.T. 1979. *Quasi-experimentation: Design and analysis issues for field settings*. Boston: Houghton Mifflin.

Cooper, D.R. & Emory, C.W. 1995. *Business research methods,* 5th ed. Chicago: McGraw-Hill/Irwin.

Cooper, D.R. & Schindler, P.S. 2014. *Business research methods,* 12th ed. New York: McGraw-Hill/Irwin.

Cooper, D.R. & William, C.E. 1995. *Business research methods,* 5th ed. Chicago: Irwin.

Core, J., Guay, W. & Verrecchia, R. 2003. Price vs. Non-price performance measures in optimal CEO compensation contracts. *Accounting Review*, 78(4):957-981.

Cornett, M.M., Marcus, A.J., Saunders, A. & Tehranian, H. 2007. The impact of institutional ownership on corporate operating performance. *Journal of Banking & Finance,* 31(6):1771-1794. Available from: <http://www.dx.doi.org/10.1016/j.jbankfin.2006.08.006.>

Correia, C., Flynn, D., Uliana, E., Wormald, M. & Dillon, J. 2015. *Financial management* (8th edition). South Africa: Juta & Company Ltd.

Crane, A.D., Michenaud, S. & Weston, J.P. 2016. The effect of institutional ownership on payout policy: Evidence from index thresholds. *Review of Financial Studies*, forthcoming.

Creswell, J.W. 2003. *Research design: Qualitative, quantitative, and mixed methods approaches,* 2nd ed. Thousand Oaks: SAGE Publications, Inc.

Creswell, J.W. 2014. *Quantitative inquiry and research design: Choosing among five approaches,* 3rd ed. Thousand Oaks: SAGE Publications.

Creswell, J.W. 2015. A concise introduction to mixed methods research. 1st Ed. SAGE Publications, Inc.

Dada, F.B., Malomo, E. & Ojediran, S. 2015. Critical evaluation of the determinants of dividend policy of banking sector in Nigeria. *International Journal of Economics Commerce and Management*III, III(2):1-11.

Dandago, K.I., Farouk, M.A., & Muhibudeen, L. 2015. Corporate shareholding structure and dividend payout ratio of listed chemical and paints companies in Nigeria. *Applied Finance and Accounting*, 1(2):47-54.

Daradkah, D.A. & Ajlouni, M.M. 2013. The effect of corporate governance on bank's dividend policy evidence from Jordan. *Australian Journal of Business and Management Research*, 3(1):30-39.

Davidson, R. & Zinde-Walsh, V. 2017. Advances in specification testing. *Canadian Journal of Economics*, 50(5):1-29.

Davis, J.H., Shoorman, F.D. & Donaldson, L. 1997. Toward a stewardship theory of management. *The Academy of Management Review*, 22(1):20-47.

Davis, S.C., Gallardo, H.L. & Lachlan, K.L. 2012. *Straight talk about communication research methods,* 2nd ed. Dubuque, IA: Kendall/Hunt Publishing Company.

De Cesari, A., Espenlaub, S., Khurshed, A. & Simkovic, M. 2012. The effects of ownership and stock liquidity on the timing of repurchase transactions. *Journal of Corporate Finance,* 18(5):1023-1050. Available from: <http://www.dx.doi.org/10.1016/j.jcorpfin.2012.06.004>.

De Wet, J. & Mpinda, M. 2013. The impact of dividend payments on shareholders' wealth: Evidence from the vector error correction model. *International Business & Economic Research Journal,* 12(11):1451-1466.

Denis, D.J. & Osobov, I. 2008. Why do firms pay dividends? International evidence on the determinants of dividend policy. *Journal of Financial Economics,* 89(1):62-82.

Desai, M.A. & Jin, L. 2011. Institutional tax clienteles and payout policy. *Journal of Financial Economics*, 100(1):68-84. Available from: <http://www.dx.doi.org/10.1016/j.jfineco.2010.10.013>.

Deysel, B. & Kruger, J. 2015. The relationship between South African CEO compensation and company performance in the banking industry. *Southern African Business Review*, 19(1):137-169.

Dickens, R.N., Casey, K.M. & Newman, J.A. 2002. Bank dividend policy: Explanatory factors. *Quarterly Journal of Business and Economics*, 41(1/2):3-12.

Doscher, T. & Friedi, G. 2011. Corporate governance, stakeholder power and executive compensation. *OR Spectrum*, 33(2):309-331.

Du Plessis, D.P., Archer, A.A. & Affleck-Graves, J.F. 1986. Historic income versus inflation adjusted income in the dividend decision. South African. *Journal of Business Management,* 17(3):119-124.

Duc, H.V. & Nguyen, Van-Thanh. 2014. Managerial ownership, leverage and dividend policies: Empirical evidence from Vietnam's listed firms. *International Journal of Economics and Finance*, 6(5):274-284.

Easterbrook, F.H. 1984. Two agency costs explanations of dividends. *American Economics Review*, 74(4):650-659.

Eckbo, B.E. & Verma, S. 1994. Managerial shareownership, voting power and cash dividend policy. *Journal of Corporate Finance*, 1:33-62. Available from: <http://www.dx.doi.org/10.1016/0929-1199(94)90009-4,>

Ehikioya, B.I. 2015. An empirical investigation of the impact of dividend policy on performance of firms in developing economies: Evidence from listed firms in Nigeria. *International Journal of Finance and Accounting*, 4(5):245-252.

Eng, L.L. & Mak, Y.T. 2003. Corporate governance and voluntary disclosure. *Journal of Accounting and Public Policy,* 22(4):325-345.

Eng, S.H., Yahya, M.H. & Hadi, A.R.A. 2013. The dividend payout policy – A comparison on Malaysian Islamic and conventional financial institutions. The 2013 WEI International Academic Conference Proceedings Istanbul, Turkey.

Faccio, M., Larry, H.P.L. & Young, L. 2001. Dividend and expropriation. *American Economic Review*, 91(1):54-78. Available from: <http://www.pdfs.semanticscholar.org/eb62/3c76c7fd68f540066d34b828babcf6b97886.pdf>

Fagerland, E.A & Nilsen, K.K. 2012. The effects of ownership on corporate performance and dividend payout policy. Unpublished Master's Thesis. Bergen, Norway: Norwegian School of Economics.

Fahlenbrach, R. & Stulz, R.M. 2011. Bank CEO incentives and the credit crisis. *Journal of Financial Economics,* 99(1):11-26.

Fairchild, R., Guney, Y. & Thanatawee, Y. 2014. Corporate dividend policy in Thailand: Theory and evidence. *International Review of Financial Analysis*, 31(C):129-151. Available from: <http://www.dx.doi.org/1.1016/j.irfa.2013.10.006>.

Fama, E.F. & Babiak, H. 1968. Dividend policy: An empirical analysis. *Journal of the American Statistical Association*, 63(324):1132-1161.

Fama, E.F. & French, K.R. 2001. Disappearing dividends: Changing characteristics or lower propensity to pay? *Journal of Financial Economics,* 60(1):3-43.

Fama, E.F. & Jensen, M.C. 1983. Separation of ownership and control. *Journal of Law and Economics*, 26(2):301-325.

Fatemi, A. & Bildik, R. 2012. Yes, dividends are disappearing: Worldwide evidence. *Journal of Banking and Finance,* 36(31):662-677.

Fernandez, P. 2005. Equivalence of ten different methods for valuing companies by cash flow discounting. *International Journal of Finance Education*, 1:141 -168.

Firer, E. & Maytham, A. 2008. Dividend policy in South Africa: *Investment Analysts Journal,* 37(68):5-19.

Fouché, C.B. & De Vos, A.S. 2011. Formal formulations. In: A.S. De Vos, H. Strydom, C.B. Fouché & C.S.L. Delport (eds.). *Research at grass roots: For the social sciences and human service professions* (pp. 89-100). Pretoria: Van Schaik Publishers.

Gharaibeh, M, Zurigat, Z & Harahsheh, K. 2013. The effect of ownership structure on dividends policy in Jordanian companies. *Interdisciplinary Journal of Contemporary Research in Business*, 4(9):769-796.

Ghozali, I. 2013. Aplikasi Analysis Multivariate dengan Program IBM SPSS 21. Edisi 7, Penerbit University Diponegoro, Semarang. Available from: <http://www.repository.usu.ac.id/ bitstream/123456789/50294/2/Reference.pdf>

Gill, A., Biger, N. & Tibrewala, R. 2010. Determinants of dividend payout ratios; Evidence from United States. *The Open Business Journal*, 3:8-13.

Gill, B. & Tibrewala, R. 2010. Stock market liquidity and firm dividend policy. *The Open Business Journal,* 3:8-14.

Gill, J. & Johnson, P. 2010. *Research methods for managers,* 4th ed. Los Angeles, CA: SAGE Publications Ltd.

Gilson, R. & Gordon, J. 2003. Controlling shareholders. *University of Pennsylvania Law Review*, 152(2):785-843.

Gitman, L.J., Smith, M.B., Hall, J., Makina, D., Malan, M., Mestry, R., Ngwenya, S. & Strydom, B. 2014. *Principles of managerial finance. Global and South African perspectives,* 2nd ed. Cape Town: Pearson Education.

Glen, J.D., Karmokolias, Y., Miller, R.R. & Shah, S. 1995. Dividend policy & behavior in emerging markets: To pay or not to pay, IFC discussion paper 26. Washington DC: International Finance Corporation.

Gordon, M.J. 1959. Dividends, earnings, and stock prices. *The Review of Economics and Statistics*, 41(2):99-105.

Gordon, M.J. 1963. Optimum investing and financing policy. *Journal of Finance*, 18(2):264-272.

Graham, B. & Dodd, D.L. 1951. *Security analysis*. New York: McGraw-Hill.

Gugler, K. & Yurtoglu, B.B. 2003. Corporate governance and dividend payout policy in Germany. *European Economic Review*, 47:731-758.

Guizani, M. & Kouki, M. 2012. Ownership control discrepancy and dividend policy: Evidence from Tunisia. *International Business Research*, 5(1):127-139.

Hadani, M., Goranova, M. & Khan, R. 2011. Institutional investors, shareholder activism, and earnings management. *Journal of Business Research*, 64(12):1352-1360. Available from: <http://www.dx.doi.org/10.1016/j.jbusres.2010.12.004.>

Hafeez, A. & Attiya, Y.J. 2009. Dynamics and determinants of dividend policy in Pakistan (Evidence from Karachi stock exchange non-financial listed firms). *International Research Journal of Finance and Economics Issue*, 25:148-171.

Haldane, A.G. 2011. Bank of England. Available from: <http://www.bankofengland.co.uk/publications/speeches/2011/speech525.pdf>

Hall, J.H. 1998. The agency problem, agency cost and proposed solutions thereto: A South African perspective. *Meditari Accountancy Research*, 6:145-161.

Haniffa, R.M. & Cooke, T.E. 2002. Culture, corporate governance and disclosure in Malaysian corporations. *ABACUS*, 38(3):317-350.

Harada, K. & Nguyen, P. 2011. Ownership conception and dividend policy in Japan. *Managerial Finance*, 37(4):362-419. Available from: <http://www.dx.doi.org/10.1108/03074351111115313>

Hashemijoo, M., Ardekani, A.M. & Younesi, N. 2012. The impact of dividend policy on share price volatility in the Malaysian Stock Market. *Journal of Business Studies Quarterly*, 4(1):111-129.

Hassain, M., Tan, L.M. & Adams, M. 1994. Voluntary disclosure in an emerging capital market: Some empirical evidence from companies listed on the Kuala Lumpur Stock Exchange. *The International Journal of Accounting*, 29(4):334-351.

Hayakawa, K. & Nagata, S. 2016. On the behaviour of the GMM Estimator in persistent dynamic panel data models with unrestricted initial conditions. *Computational Statistics and Data Analysis*, 100(C):262-303.

Haye, E. 2014. Dividend policy and agency effects: A look at financial firms. *International Journal of Economics and Finance*; 6(2):8-18.

He, M. & Lin, K.-P. 2015. Testing in a random effects panel data model with spatially correlated error components and spatially lagged dependent variables. *Econometrics*, 3:761-796.

Healy, P. & Palepu, K.G. 1988. Earnings information conveyed by dividend initiations and omissions. *Journal of Financial Economics*, 21(2):149-176.

Hesketch, E.A. & Laidlaw, J.M. Quantitative research. Available from: <http://www.nes.scot.nhs.uk/nes_resources/ti/QuantativeResearch.pdf>

Hommel, M. 2011. Dividend policy and ownership structure in The Netherlands. Unpublished Master Thesis, Financial Management. Netherland: Tilburg University, School of Economics and Management.

Houcine, R.E. & Ajina, A. 2013. The effect of ownership structure on dividend policy. *Financial Forum*, 5:410-416.

Hu, A. & Kumar, P. 2004. Managerial entrenchment and payout policy. *Journal of Management. Journal of Financial and Quantitative Analysis,* 39(4):759-790. Available from: <http://www.dx.doi.org/10.1017/S0022109000003203>

Huda, N. & Abdullah, M.N. 2014. Relationship between ownership structure and dividend policy: Empirical evidence from Chittagong Stock Exchange. *World Review of Business Research*, 4(3):14-34.

Hussainey, K., Mgbame, C.O. & Chijoke-Mgbame, A.M. 2011. Dividend policy and share price volatility: UK Evidence. *Journal of Risk Finance*, 12(1):57-68.

Institute of Risk Management South Africa Risks Report. 2015. 1stFirst Ed.

International Labour office (ILO). 2015. World Employment and Social Outlook Trends. Geneva.

International Labour Office (ILO). 2016b. Global Wage Report 2016/2017: Wage inequality in the workplace. Geneva.

International Labour Office (ILO). 2017a. World Employment and Social Outlook: Trends 2017. Geneva.

Iqbal, Z., Waseem, M.A. & Asad, M. 2014. Impact of dividend policy on shareholders' wealth: A study of selected manufacturing industries of Pakistan. *International Journal of Innovation and Applied Studies,* 6(2):210-215.

Jensen, G.R., Solberg, D.P. & Zorn, T.S. 1992. Simultaneous determination of insider ownership, debt and dividend policies. *The Journal of Financial and Quantitative Analysis*, 27(2):247-263. Available from: <http://www.dx.doi.org/10.230/2331370>

Jensen, M.C. & Meckling, W.H. 1976. Theory of the firm: Managerial behaviour, agency costs, and capital structure, *Journal of Financial Economics,* 3(4):305-360.

Jensen, M.C. 1986. Agency costs of free flow, corporate finance, and takeovers. *The American Economics Review*, 76(2):323-329.

Jiraporn, P. & Ning, Y. 2006. Dividend policy, shareholder rights, and corporate governance. *Journal of Applied Finance*, 16(2):24-36.

Jiraporn, P., Kim, J.C. & Kim, Y.S. 2011. Dividend policy and corporate governance quality: Evidence from ISS. *The Financial Review*, 46:251-279.

Johannesburg Securities Exchange (JSE), Ltd. 2017. Integrated Annual Report, for the year ended 31 December 2017.

John, G. & Johnson, P. 2010. *Research methods for managers,* 4th ed. London: SAGE Publications.

Jojadeh, S.V. & Pouraghajan, A. 2014. Impact of ownership structure and cash flows on dividend policy of listed companies in Tehran Stock Exchange. Applied Mathematics in Engineering, Management and Technology. *The Special İssue in Management and Technology*, pp.1060-1068.

Joshi, R. 2012. Effects of dividends on Stock prices in Nepal. *NRB Economic Review*, 24(2):61-75.

Jovanova, M. 2014. Internal audit as a service of management for improvement of economic efficiency of the enterprises in Republic of Macedonia. Unpublished MA thesis. Macedonia: University St Kliment Ohridski, Faculty of Economics Prilep.

Kalay, A. & Michael, R. 1993. Dividends and taxes: A re-examination. *Financial Management*, 29(2):55-75.

Khan, F.A. & Ahmad, N. 2017. Determinants of dividend payout: An empirical study of pharmaceutical companies of Pakistan Stock Exchange (PSX). *Journal of Financial Studies & Research*, 2017(538214):1-16.

Khan, K.I., Aamir, M., Qayyum, A., Nasir, A. & Khan, M.I. 2011. Can dividend decision affect the stock prices: A case of dividend paying companies of KSE. *International Research Journal of Finance and Economics*, 76:67-74.

Khan, T. 2006. Company dividends and ownership structure: Evidence from UK panel data. *The Economic Journal*, 116(510):172-189. Available from: <http://www.dx.doi.org/10.1111/j.1468-0297.2006.01082.x.>

Kim, W.S. & Sorensen, E.H. 1986. Evidence on the impact of the agency costs of debt on corporate debt policy. *Journal of Financial and Quantitative Analysis*, 21(2):131-144.

King IV Report. 2016. Institute of Directors in Southern Africa: Report on Corporate Governance for South Africa 2016.

Kiviet, J.F. & Feng, Q. 2016. Efficiency gains by modifying GMM estimation in linear models under heteroskedasticity. Discussion Paper: 2014/06, UVA Econometrics. Amsterdam: University of Amsterdam.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A & Vishny, R. 2000. Agency problems and dividend policy around the world. *Journal of Finance*, 55(1):1-33.

La Porta, R., Lopez-De-Silanez, F. & Shleifer, A. 1999. Corporate ownership around the world. *Journal of Finance*, 54(2):471-516.

Lam, K.C., Sami, H. & Zhou, H. 2012. The role of cross-listing, foreign ownership and state ownership in dividend policy in an emerging market. *China Journal of Accounting Research,* 5(3):199-216.

Lambrechts, I.J. (ed.). 1992. *Financial management* (4th edition). Pretoria: J.L.van Schaik.

Larcker, D. & Tayan, B. 2011. *Corporate governance matters: A closer look at organizational choices and their consequences*. New Jersey: Pearson Education Inc.

Lease, R.C., Kalay, A.J.K., Loewenstein, U. & Sarig, H.O. 2000. *Dividend policy: Its impact on firm value*. Boston, Massachusetts: Harvard Business School Press.

Leedy, P.D. & Ormrod, J.E. 2016. *Practical research: Planning and design* (11th edition, Global edition). Boston: Pearson.

Leland, H.E. 1998. Agency costs, risk management and capital structure. *The Journal of Finance,* 53(4):1213-1214.

Lintner, J. 1956. Distribution of income of corporations among dividends retained earnings, and taxes. *The American Economics Review*, 46(2):97-113.

Lintner, J. 1962. Dividends, earning, leverage, stock price, and the supply of capital to corporations. *The Review of Economics and Statistics*, 44(3):243-269.

Litzenberger, R.H. & Ramaswamy, K. 1979. The effects of personal taxes and dividend on capital asset prices: Theory and empirical evidence. *Journal of Financial Economics,* 7(2):163-195.

Maladjian, E.R. & Khoury, C. 2014. Determinants of the dividend policy: An empirical study on the Lebanese Listed Banks. *International Journal of Economics and Finance*, 6(4):240-256.

Manos, R. 2002. Dividend policy and agency theory: Evidence on Indian firms. Working Paper. Institute for Development Policy and Management, University of Manchester.

Marx, J. 2001. Empirical Findings on Directors' Views on Dividend Policy. Management Dynamics, 10(2): 50-66

Marx, K. 2004. The role of the social context for strategy-making: Examining the impact of embeddedness on the performance of strategic initiatives. Unpublished dissertation. St. Gallen, Switzerland: University of St. Gallen.

McKnight, P.J. & Weir, C. 2009. Agency costs, corporate governance and ownership structure in large UK publicly quoted companies: a panel data analysis. *The Quarterly Review of Economics and Finance*, 49(2):139-58.

Mehrani, S., Moradi, M. & Eskandar, H. 2011. Ownership structure and dividend policy: Evidence from Iran. *African Journal of Business Management*, 5(17):7516-7525.

Mello, A.S. & Parsons, J.E. 1992. Measuring the agency cost. *The Journal of Finance*, 47(5):1887-1904.

Michael, N.B. 2016. Corporate governance practices and dividend policies of quoted firms in Nigeria. *International Journal of Asian Social Science,* 6(3):212-223.

Miller, M.H. & Modigliani, F. 1961. Dividend policy, growth and the valuation of shares. *Journal of Business*, 34(4):411-433.

Miller, M.H. & Scholes, M.S. 1978. Dividends and taxes. *Journal of Financial Economics,* 6(4):333-264.

Miller, M.H. 1986. Behavioural rationality in finance: The case of dividends. *Journal of Business,* 59(4):451-468.

Mirzaei, H. 2012. A survey on the relationship between ownership structure and dividend policy in Tehran stock exchange. International Conference on Management, Applied and Social Sciences, Dubai.

Modigliani, F. & Miller, M.H. 1958. The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48(3):261-297.

Moh'd, M.A., Perry, L.G. & Rimbey, J.N. 1995. An investigation of dynamic relationship between agency theory & dividend policy. *Financial Review*, 30(2):367-385.

Mollah, S., Keasey, K. & Short, H. 2002. The influence of agency cost on dividend policy in an emerging market: Evidence from the Dhaka stock exchange. Working paper.Available from: <http://www.bath.ac.uk.>

Moneyweb. 2013. BHP's cost-cutting includes new CEO's salary. Available at: <http://www.moneyweb.co.za/moneyweb-corporate-governance/bhps-costcutting-includes-new-ceos-salary>

Monogbe T.G. & Ibrahim, A.A. 2015. Dividend policy on financial performance: a case study of selected registered firm in Nigeria*. Research Journal of Finance and Accounting*, 6(20). Available from: <http://www.iiste.org/Journals/index.php/RJFA/article/viewFile/26291/26972(01.02.2017>)

Moral-Benito, E. 2013. Likelihood-based estimation of dynamic panels with predetermined regressors. *Journal of Business & Economic Statistics,* 31(4):451-472.

Morck, R., Shleifer, A. & Vishny, R.W. 1988. Management ownership and market valuation. *Journal of financial economics*, 20(1):293-315. Available from: <http://www.dx.doi.org/10.1016/0304-405x (88)90048-7.>

Moser, D., Sauer, R. & Xu, R. 2014. How do qualitative and quantitative researches differ?

Mouton, J. 1996. *Understanding social research*. Pretoria: J.L. van Schaik Publishers.

Muller, C. Firer, C. & Viviers, S. 2013. A review of the dividend payments of South African listed companies during the period 1977-2011. *Management Dynamics*, 22(4):2-19.

Nazir, M.S., Nawaz, M.M., Anwar, W. & Ahmed, F. 2010. Determinant of stock price in Karachi stock exchange: The mediating role of corporate dividend policy. *International Research Journal of Finance and Economics*, 55:100-107.

Nerlove, M. 2005. *Essays in panel data econometrics*. Cambridge: Cambridge University Press.

Nganga, S., Jain, V. & Artvor, M. 2003. *Corporate governance in Africa: A survey of publicly listed companies*. London: London Business School.

Nnadi, M., Wogboroma, N. & Kabel, B. 2013. Determinants of dividend policy: Evidence from listed firms in the African stock exchanges. *Panoeconomicus*, 6:725-741.

Olufawoye, O.H., Iyoha, A.O.I. & Izedonmi, F. 2017. Agency cost and dividend policy: Evidence from Nigeria. *International Journal of Economics, Commerce and Management (UK),* V(7):306-333.

Osegbue, I.F., Ifurueze, M. & Ifurueze, P. 2014. An analysis of the relationship between dividend payment and corporate performance of Nigerian banks. *Global Business and Economic Research Journal,* 3(2):75-95.

Ozkan, N. 2007. Do corporate governance mechanisms influence CEO compensation? An empirical investigation of UK companies. *Journal of Multinational Financial Management*, 17(5):349-364.

Panda, B & Leepsa, N.M. 2017. Agency theory: Review of theory and evidence on problems and perspectives. *Indian Journal of Corporate Governance,* 10(1):74-95.

Pepper, A. & Gore, J. 2012. Behavioural agency theory new foundations for theorizing about executive compensation. *Journal of Management*, 41(4):1045-1068.

Pettit, R.R. 1977. Taxes, transaction costs and the clientele effect of dividends. *Journal of Financial Economics*, 5(3):419-436.

Piketty, T. 2014. *Capital in the twenty-first century*. London: Harvard University Press.

Pillai, V.N. 2016. *Panel data analysis with Stata part 1 fixed effects and random effects models*. Kerala, India: Centre for Development Studies.

Qian, Z. 2014. Economics of money and finance Lecture eight: Endogeneity, IV and GMM. School of Finance, Renmin University of China.

Rajan, R.G. 2005. Has financial development made the world riskier? Working Paper 11728. Cambridge, Massachusetts: National Bureau of Economic Research.

Rashid, A. & Rahman, A.Z. 2009. Dividend policy and stock price volatility: Evidence from Bangladesh. *Journal of Applied Business Economics*, 8(4):71-81.

Ringborg, F. & Dai, J. 2016. Determinants of dividend policy in Sweden. Degree Project in Corporate and Financial Management, Master Level. Lund, Sweden: Lund University.

Ross, S.A. 1973. The economic theory of agency: The principal's problems. American Economic Review, 63(2):134-139.

Rozeff, M.S. 1982. Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial Research*, 5(3):249-259.

Said, H.B. 2013. Dividends and problem of separation of ownership and control: Theory and evidence from French firms*. International Journal of Economics and Finance*; 5(7):162-177.

Sakinc, I. & Gungor, S. 2015. The relationship between ownership structure and dividend: An application in Istanbul stock exchange. *Journal of Economics and Development Studies,* 3(4):19-30.

Sarwar, M.S. 2013. Effect of dividend policy on shareholder's wealth: A study of sugar industry in Pakistan. *Global Journal of Management and Business Research Finance*, 13(1):46-54.

Saunders, M., Lewis, P. & Thornhill, A. 2012. *Research methods for business students* (6th edition). Harlow, England: Pearson Education.

Saunders, M., Lewis, P. & Thornhill, A. 2016. *Research methods for business students* (7th edition). Harlow, England: Pearson Education.

Seneque, P.J.C. & Gourley, B.M. 1983. Dividend policy and practice in South Africa. *Investment Analysis Journal*, 12(21):35-41.

Shadish, W.R., Cook, T.D. & Campbell, D.T. 2002. *Experimental and quasi-experimental designs for generalized causal inference.* Boston: Houghton Mifflin.

Shah, S.Z.A., Ullah, W. & Hasnain, B. 2011. Impact of ownership structure on dividend policy of a firm (evidence from Pakistan). The International Conference on E- business, Management and Economics. Hong Kong: IACSIT Press.

Sharma, V. 2011. Independent directors and the propensity to pay dividends. *Journal of Corporate Finance,* 17(4):1001-1015. Available from: <http://www.dx.doi.org/10.1016/j.jcorpfin.2011.05.003.>

Sheytanova, T. 2014. The accuracy of the Hausman Test in panel data: A Monte Carlo study. Unpublished thesis, Applied Statistics. Örebro, Sweden: Örebro University.

Shleifer, A. & Vishny, R. 1986. Large shareholders monitoring and corporate control. *Journal of Political Economy*, 94(3):461-488.

Shleifer, A. & Vishny, R.W. 1997. A survey of corporate governance*. The Journal of Finance,* 52(2):737 -783.

Shor, B., Bafumi, J., Keele, L. & Park, D. 2007. A Bayesian multilevel modelling approach to time-series cross-sectional data. *Political Analysis,* 15(2):165-181.

Smit, A. 2015. The quality of reported earnings and the monitoring role of the board: Evidence from small and medium companies. Southern African Business Review Special Edition Accounting Research 2015.

Smith, A. 1937. (Original work published 1776). *An inquiry into the nature and causes of the wealth of nations*. New York: P.F. Collier & Sons.

Smith, A. 1976. (General editors: Campbell, R.H. & Skinner, A.S.). *An inquiry into the nature and causes of the wealth of nations*. Indianapolis: LibertyClassics.

Steyn, B. & Stainbank, L. 2013. Separation of ownership and control in South African listed companies. *South African Journal of Economic and Management Sciences*, 16(3):316-328.

Stouraitis, A. & Wu, L. 2004. The impact of ownership structure on the dividend policy of Japanese firms with free cash flow problem. Working paper. Available from: <http://www.affi.asso.fr/>

Stulz, R.1990. Managerial discretion and optimal financing policies. *Journal of Financial Economics,* 26(1):3-27. Available from: <http://www.sciencedirect.com/science/article/pii/0304405X9090011N>.

Stutely, M. 2003. *Numbers guide: The essentials of business numeracy*. London: Bloomberg Press.

Talevi, G. 2015. BEE scheme provides rare silver lining amid clouds of gloom. *Sunday Times*, 8 November.

Terre Blanche, M.T., Durrheim, K. & Painter, D. 2011. *Research in practice: Applied methods for the social sciences*. Cape Town: UCT Press.

Thanatawee, Y. 2013. Ownership structure and dividend policy: Evidence from Thailand. *International Journal of Economics and Finance*, 5(1):121-132.

Thanatawee, Y. 2014. Ownership structure and dividend policy: Evidence from China. *International Journal of Economics and Finance*, 6(8):197-204.

The World Bank. 2005. Report on the observance of standards and codes: Corporate governance country assessment Ghana. Washington, DC: World Bank.

The World Bank. 2018. Republic of South Africa systematic country diagnostic: An incomplete transition, overcoming the legacy of exclusion in South Africa. Washington, DC: World Bank.

Torres-Reyna, O. 2007. Panel data analysis fixed and random effects; using Stata (v. 4.2); Available from: <http://www.ss.princeton.edu/training>

Tukey, J.W. 1977. *Exploratory data analysis*. Reading, MA: Addison-Wesley.

Ullah, H., Fida, A. & Khan, S. 2012. The impact of ownership structure on dividend policy evidence from emerging markets KSE-100 Index Pakistan. *International Journal of Business and Social Science*, 3(9):298-307.

Uwalomwa, U., Olamide, O. & Francis, I. 2015. The effects of corporate governance mechanisms on firms dividend payout policy in Nigeria. *Journal of Accounting and Auditing: Research and Practice,* 1-11. Available from: <http://www.ibimapublishing.com/articles/JAARP/2015/313679/313679.pdf>

Uwuigbe, U., Jafaru, J. & Ajayi, A. 2012. Dividend policy and firm performance: A study of listed firms in Nigeria. *Accounting and Management Information Systems*, 11(3):442-454.

Van der Berg, S. & Bhorat, H. 1999. The present as a legacy of the past: The labour market, inequality and poverty in South Africa. DPRU Working Paper 01/29. Cape Town: Development Policy Research Unit, University of Cape Town.

Vijayamohanan, P.N. 2016. Panel data analysis with Stata part 1 fixed effects and random effects models. available from: <http://www.mpra.ub.uni-muenchen.de/76869/1/MPRA_paper_76869.pdf>

Vinh, D.Q. 2014. The effect of foreign ownership on dividend policy: The case of listed companies on hose. Unpublished thesis in Business Administration. Ho Chi Minh City: Vietnam National University.

Viviers, S., Firer, C. & Muller, C. 2013. A review of dividend payments of South African listed companies during the period 1977-2011. *Management Dynamics: Journal of the Southern African Institute for Management Scientists*, 22(4):2-19.

Vo, D. & Phan, T. 2013. Corporate governance and firm performance: Empirical evidence from Vietnam. Available from: <http://www.murdoch.edu.au/School-of-Business-and-Governance/_document/Australian-Conference-of-Economists/Corporate-governance-and-firm-performance.pdf>

Vo, D. & Phan, T. 2013. *Economic regulation authority*. Perth, Australian: Open University, Ho Chi Minh, Vietnam.

Vo, D.H. & Nguyen, V.T.Y. 2014. Managerial ownership, leverage and dividend policies: Empirical evidence from Vietnam's listed firms. *International Journal of Economics and Finance,* 6(5):274-284.

Warrad, L., Abed, S., Khriasat, O. & Al-Shiekh, I. 2012. The effect of ownership structure on dividend payout policy: Evidence from Jordanian context. *International Journal of Economics & Finance,* 4(2):187-195.

Wen, Y. & Jia, J. 2010. Institutional ownership, managerial ownership and dividend policy in bank holding companies. *International Review of Accounting, Banking and Finance*, 2(1):8-21.

Wesson, N. 2015. An empirical model of choice between share repurchases and dividends for companies in selected JSE-listed sectors. Unpublished doctorate dissertation. Stellenbosch: Stellenbosch University.

Wesson, N., Muller, C. & Ward, M. 2014 Market under reaction to open market share repurchases on the JSE. *South African Journal of Business Management*, 45(4):59-69.

Western, B. 1998. Causal heterogeneity in comparative research: A Bayesian hierarchical modelling approach. *American Journal of Political Science*, 42:1233-1259.

Williams, R. 2015. Multicollinearity. Available from: <http://www3.nd.edu/%7Erwilliam/>

Williams, R., Allison, P.D. & Moral-Benito, E. 2017. xtdpdml: Linear dynamic panel-data estimation using maximum likelihood and structural equation modelling. *The Stata Journal*, forthcoming.

Woolard, I. 2001. Income inequality and poverty: Methods of estimation and some policy applications for South Africa. Unpublished doctorate dissertation. Cape Town: University of Cape Town.

Wooldridge, J.M. 2010. *Econometric analysis of cross section and panel data*. Cambridge, Massachusetts: MIT Press.

Zameer, H., Rasool, S., Iqbal, S. & Arshad, U. 2013. Determinants of dividend policy: A case of banking sector in Pakistan. *Middle-East Journal of Scientific Research*, 18(3):410-424.

Zeckhauser, R.J. & Pound, J. 1990. Are large shareholders effective monitors? An investigation of share ownership and corporate performance (pp. 149-180). Chicago: University of Chicago Press.

Zikmund, W.G. 1997. *Business research methods* (5th edition). Oklahoma: The Dryden Press Harcourt Brace College Publishers.

Zikmund, W.G. 2003. *Business research methods*. Ohio, USA: Thomson South-Western.

APPENDIX A

Table 3.2.1: Financial' Services Companies Population on the JSE as at 2016

Financial' services Companies Population on the JSE as at 2016 (SECTOR)	
Subsectors	**Number**
Banks	
Barclays Africa Group Ltd	0
Capitec Bank Holdings Limited	1
Finbond Group Ltd	2
Firstrand group ltd	3
Nedbank Group Limited	4
RMB Holdings Limited	5
Standard Bank Group Ltd	6
Financial Services	
African bank investment Ltd	7
African equity employment investments Ltd	8
Alexander Forbes group holdings Ltd	9
BK ONE Ltd	10
Brait services	11
Coronation fund managers Ltd	12
Dened investments Ltd	13
Ecsponent Ltd	14
EP/E Capital partners Limited	15
Efficient Group Ltd	16
Grade parade investments Ltd	17
Investec Ltd	18
Investec Plc	19
JSE Ltd	20
London finance and investment group plc	21
Peregrine holdings ltd	22
Prescient Ltd	23
PSG group Ltd	24
PSG consult Ltd	25
Purple group Ltd	26
Sasfin holdings Ltd	27
Sygnia Limited	28
Transaction capital ltd	29
Trustco group holdings Ltd	30

Waco international holdings Ltd	31
Zeder investments Ltd	32
Asset Managers	
Alexander Forbes Group Holdings Ltd	33
Coronation fund managers Limited	34
Efficient Group Ltd	35
London Finance and Investment Group Plc	36
Peregrine Holdings Limited	37
Prescient Limited	38
Sygnia Limited	39
Investment services	
Brait services	41
Investec Limited	43
Investec Plc	44
JSE Ltd	45
PSG Group Limited	46
PSG konsult Ltd	47
Purple Group Ltd	48
Sasfin Holdings Limited	49
Speciality Finance	
African Equity Emp Inv Ltd	50
BK ONE Ltd	51
Capital Appreciation Ltd	52
Deneb Investments Ltd	53
ECSPONENT Ltd	54
Grand Parade Investments ltd	55
Transaction Capital Ltd	56
Trustco Group Holdings Limited	57
WACO international holdings Ltd	58
Zeder Investments Ltd	59
Insurance	
Clientele Limited	60
Discovery Ltd	61
Liberty Holdings Limited	62
MMI Holdings Plc	63
Old Mutual plc	64
Sanlam Limited	65
Santam Limited	66
Zurich Insurance company SA Ltd	67

Life Insurance	
Clientele Limited	66
Discovery Ltd	67
Liberty Holdings Limited	68
MMI Holdings Ltd	69
Old Mutual Plc	70
Sanlam Limited	71
Zurich Insurance Company SA Ltd	72
Santam Limited	73
Conduit Capital Limited	74
Equity Investment Instruments	
Andulela Investment holdings Ltd	76
Brimstone Investment corporation Ltd	77
Hosken Consolidated Investments Ltd	78
Niveus Investments Ltd	79
Pallinghurst Resources Ltd	80
Rand Merchant Insurance Holdings Ltd	81
Reinet Investments S.C.A.	82
Sabvest Limited	83
Stellar Capital Partners Ltd	84
Sycom Property Fund	85
Trematon Capital Investments Ltd	86
Real Estate	
Accelerate Property Fund Ltd	87
Acsion limited	88
Adrenna Prop Group Ltd	89
Arrowhead properties B	90
Ascension prop ltd A	91
Attach Ltd	92
Balwin properties Ltd	93
Bonatla property Holdings Limited	94
Capital & Regional Plc	95
Capital & Counties Properties Plc	96
Capital Property Fund Ltd	97
Delta Africa Prop Hidg L	98
Delta Property Fund Ltd	99
Dipula Income Fund Ltd	100
Emira Property Fund Ltd	101
Equites Property Fund Ltd	102

Fairvest Property Hildgs	103
Fortress Inc Fund Ltd A	104
Fountainhead Property trust	105
Freedom Property Fund Ltd	106
Growthpoint Prop Ltd	107
Hospitality Prop Fund A	108
Hyprop Investments Ltd	109
Indluplace Properties ltd	110
Ingenuity Property Investments Ltd	111
Intu Properties Plc	112
Investec Australia property fund	113
Investec Property Fund Ltd	114
Mas Real Estate Inc	115
New Europe Property Investments Plc	116
Octodec Investments Ltd	117
Orion Real Estate Ltd	118
Putprop Limited	119
Rebosis Property Fund Ltd	120
Redifine international Plc	121
Redifine Properties Ltd	122
Resilient Property Income Fund Ltd	123
Rockcastle global Real Est co.Ltd	124
SA corporate Real Estate Fund	125
Safari Investments RSA Ltd	126
Stenprop Limited	127
Sycom Property Fund	128
Synergy Inc Fund Ltd A	129
Texton Property Fund Ltd	130
The Pivotal Fund Limited	131
Tower Property Fund Ltd	132
Tradehold Limited	133
Vukile Property Fund Ltd	134
Waco international holdings Ltd	135
Real Estate Investments & Services	
Acsion limited	136
Adrenna Prop Group Ltd	137
Attach Ltd	138
Balwin properties Ltd	139
Bonatla property Holdings Limited	140

Capital & Counties Properties Plc	141
Delta Africa Prop Hidg L	142
Freedom Property Fund Ltd	143
Hyprop Investments Ltd	144
Ingenuity Property Investments Ltd	145
Mas Real Estate Inc	146
New Europe Property Investments Plc	147
Putprop Limited	148
Rockcastle Global Real Est co.Ltd	149
Stenprop Limited	150
The Pivotal Fund Limited	151
Tradehold Limited	152
Real Estate Holding & Development	
Acsion limited	153
Adrenna Prop Group Ltd	154
Attach Ltd	155
Balwin properties Ltd	156
Bonatla property Holdings Limited	157
Capital & Counties Properties Plc	158
Delta Africa Prop Hidg L	159
Freedom Property Fund Ltd	160
Hyprop Investments Ltd	161
Ingenuity Property Investments Ltd	162
Mas Real Estate Inc	163
New Europe Property Investments Plc	164
Putprop Limited	165
Rockcastle Global Real Est co.Ltd	166
Stenprop Limited	167
The Pivotal Fund Limited	168
Tradehold Limited	169
Real Estate Investment Trusts	
Accelerate Property Fund Ltd	170
Arrowhead properties B	171
Ascension prop ltd A	172
Capital & Regional Plc	173
Capital Property Fund Ltd	174
Delta Property Fund Ltd	175
Dipula Income Fund Ltd	176
Emira Property Fund Ltd	177

Equites Property Fund Ltd	178
Fairvest Property Hildgs	179
Fortress Inc Fund Ltd A	180
Fountainhead Property trust	181
Growthpoint Prop Ltd	182
Hospitality Prop Fund A	183
Hyprop Investments Ltd	184
Indluplace Properties ltd	185
Intu Properties Plc	186
Investec Australia property fund	187
Investec Property Fund Ltd	189
Octodec Investments Ltd	190
Orion Real Estate Ltd	191
Rebosis Property Fund Ltd	192
Redifine international Plc	193
Redifine Properties Ltd	194
Resilient Property Income Fund Ltd	195
SA corporate Real Estate Fund	196
Safari Investments RSA Ltd	197
Stenprop Limited	198
Sycom Property Fund	199
Synergy Inc Fund Ltd A	200
Texton Property Fund Ltd	201
Tower Property Fund Ltd	202
Vukile Property Fund Ltd	203
Diversified REITS	
Ascension prop Ltd A	204
Dipula Income Fund Ltd	205
Emira Property Fund Ltd	206
Fortress Inc Fund Ltd A	207
Growthpoint Prop Ltd	208
Intu Properties Plc	209
Orion Real Estate Ltd	210
Rebosis Property Fund Ltd	211
Redifine international Plc	212
Redifine Properties Ltd	213
SA corporate Real Estate Fund	214
Texton Property Fund Ltd	215
Tower Property Fund Ltd	216

Industrial & Office Reits	
Arrowhead Properties B	217
Capital Property Fund Ltd	218
Delta Property Fund Ltd	219
Equities Property Fund Ltd	220
Investec Australia Property Fund	221
Indluplace Properties Ltd	222
Retail REITs227	
Accelerate Property Fund Ltd	223
BK ONE Ltd	224
Capital & Regional Plc	225
Fairvest Property Hildgs	226
Fountainhead Property trust	227
Hyprop Investments Ltd	228
Intu Properties Plc	229
Octodec Investments Ltd	230
Resilient Property Income Fund Ltd	231
Safari Investments RSA Ltd	232
Sycom Property Fund	233
Synergy Inc Fund Ltd A	234
Vukile Property Fund Ltd	235
Waco international holdings Ltd	236

Source: IRESS Database (2016).